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CIRCULARS OF INFORMATION

BUREAU OF EDUCATION.

1877-1878-1879

WASHINGTON:
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1877-'79

CIRCULARS OF INFORMATION

OF THE

UREAU OF EDUCATION.

No. 1—1877.

REPORT ON THE SYSTEM OF PUBLIC INSTRUCTION IN CHINA.

WASHINGTON:
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LETTERS OF HON. BENJ. P. AVERY* AND DR. PETER PARKER TO THE COMMISSIONER.

LEGATION OF THE UNITED STATES,
Peking, May 28, 1875.

SIR: Before my departure for China, I received from you a request to secure for use by your Bureau an accurate and full statement of the methods of education in China and "the relation of the methods to the failure of their civilization."

On my arrival at Peking, bearing your request in mind, I was confirmed in the opinion entertained before, that to no one else could I apply for the information desired with so much propriety as to Dr. W. A. P. Martin, our fellow countryman, president of the Imperial College for Western Science, at Peking, whose long residence in China, scholarly knowledge of Chinese literature, and familiar acquaintance with native methods of education must be well known to you.

Dr. Martin, at my solicitation, agreed to furnish a paper on the sub-

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* The sudden death of Mr. Avery, on the 8th of November, 1875, while minister of the United States at Peking, was mourned as a loss not only to his large circle of personal friends, but to the country which he represented so acceptably.

The following estimate of his character and usefulness is taken from the somewhat extended notice of his death which appeared in the Overland Monthly Magazine for December, 1875. Mr. Avery was formerly the editor of this magazine, and his influence in California was recognized as ever exerted in the direction of the highest culture:

"Mr. Avery was in many respects a remarkable man. He typified the ripest fruitage of our western thought and culture. He was essentially Californian. * * * Perhaps no one person did so much to educate the people of the State in the right direction, to lift the thoughts of men above the sordid interests of the hour and the mean ambitions of personal gain. He embodied in his life and character that spirit of a broader culture, purer morals, and loftier aims which constitutes the basis of all healthy growth. He loved California with an almost idolatrous love, but lamented its hard materialism and strove to make it more worthy of its great destiny; and he was unwearying in his efforts to elevate and refine. The hours that other workers gave to rest and recreation he devoted to the building up of new æsthetic interests and the study of those gentler arts that uplift society and smooth down the sharp angles of our western life. He was one of those rare men who are estimated rather below than above their true value. * * * His capacity for work was marvelous. We cannot recall a journalist, with perhaps the exception of the late Henry J. Raymond, who could write so rapidly yet so pointedly and correctly. His well stored mind poured forth its treasures in a rapid flowing copious stream. He was equally ready in all departments of journalistic activity. * * * He is dead; but the seed of thought and culture he has sown has not fallen on barren ground. His work survives him. The interests he promoted and the institutions he helped to found are living monuments of his beneficent activity."

ject you indicated, which I have just received from his hands and now forward to you through the courtesy of the State Department. I scarcely need add that you will find it alike interesting and valuable. In connection with the subject of Dr. Martin's paper, permit me to call your attention to a dispatch written by S. Wells Williams, then chargé d'affaires at this legation, to the State Department, under date of August 26, 1869, numbered 58, and referring to the enormous difficulties of the Chinese language, whether spoken or written, as one of the principal obstacles to the progress of this people. Dr. Martin touches on this point, but it did not enter into his object to enlarge upon it.

I am, sir, your obedient servant,

BENJ. P. AVERY.

Hon. JOHN EATON,
Commissioner of Education.

WASHINGTON, *March* 29, 1876.

SIR: I have perused with care and much interest the paper of Dr. Martin upon the subject of education in China, and regard it as a very able presentation of the past and present state of the various departments of education in the empire.

President Martin enjoys advantages and possesses qualifications (knowledge of the language, literature, laws, and customs of China) surpassed by none for presenting a thorough and accurate knowledge of the subject. Many are the remarkable events of the century just closing; among them, the opening of China and the demolition of her wall of conceit and exclusiveness, more massive than her great northern wall of bricks and cement, stand preëminent. While the astronomer is rendapping the heavens and "trapping" in quick succession the hitherto undiscovered planets, and the paleontologist is pursuing his researches in Egypt and Assyria, so the archæologist, for the first time, is opening to the western world the works of men for centuries in and around the forbidden city of the Celestial Empire, and a university modelled after those of the west has been established and is presided over by an eminent American scholar and sinologue.

The observations respecting the system of literary examinations, dating back more than two thousand years, are of special interest, and the change of base in education indicated by the educational mission to this country is of surpassing importance. The statements that "the government will soon perceive the necessity of supplying its people with the means of higher, broader culture than they can derive from the grammar and rhetoric of their own language;" that efforts for the promotion of education are specially encouraged by enlightened magistrates; that recently over three hundred new schools were reported as opened in one department (county) of the province (state) of Canton, taken in

connection with the Chinese educational mission, (which, according to the statement of Mr. Yung Wing, consists of 115 select Chinese youth pursuing a thorough collegiate and scientific education,) are facts of deepest interest. It is difficult to express or conceive the full influence these youth of rare talent and thorough education according to western standards will exert when, returned to their home, they shall become the educators of their people and coadjutors of the government itself.

Yours, truly,

PETER PARKER.

Hon. JOHN EATON,
Commissioner of Education.

EDUCATION IN CHINA.

1.—INFLUENCE ON NATIONAL CHARACTER.

The interest of the inquiry on which we are about to enter is based on the assumption that differences of national character are mainly due to the influence of education. This we conceive to be true, except in extreme cases, such as those of the inhabitants of torrid or frigid regions, where everything succumbs to the tyranny of physical forces. In such situations, climate shapes education, as, according to Montesquieu, it determines morals and dictates laws. But in milder latitudes the difference of physical surroundings is an almost inappreciable element in the formation of character in comparison with influences of an intellectual and moral kind. Much, for example, is said about the inspiration of mountain scenery—an inspiration felt most sensibly, if not most effectively, by those who see the mountains least frequently—but, as John Foster remarks, the character of a lad brought up at the foot of the Alps is a thousandfold more affected by the companions with whom he associates than by the mountains that rear their heads above his dwelling.

The peculiar character of the Chinese—for they have a character which is one and distinct—is not to be accounted for by their residence in great plains, for half the empire is mountainous. Neither is it to be ascribed to their rice diet, as rice is a luxury in which few of the northern population are able to indulge. Still less is it to be referred to the influence of climate, for they spread over a broad belt in their own country, emigrate in all directions, and flourish in every zone. It is not even explained by the unity and persistency of an original type, for in their earlier career they absorbed and assimilated several other races, while history shows that at different epochs their own character has undergone remarkable changes. The true secret of this phenomenon is the presence of an agency which, under our own eyes, has shown itself sufficiently powerful to transform the turbulent nomadic Mantchoo into the most Chinese of the inhabitants of the Middle Kingdom. The general name for that agency, which includes a thousand elements, is education. It is education that has imparted a uniform stamp to the Chinese under every variety of physical condition; just as the successive sheets of paper applied to an engraving bring away, substantially, the same impression, notwithstanding differences in the quality of the material.

In this wide sense we shall not attempt to treat the subject, though

nay not be out of place to remark that the Chinese themselves em-
›y a word which answers to education with a similar latitude. They
/, for instance, that the education of a child begins before its birth.
e women of ancient times, say they, in every movement had regard
its effect on the character of their offspring. This they denominate
'o, reminding us of what Gœthe tells us in his autobiography of cer-
n antecedents, which had their effect in imparting to him

"That concord of harmonious powers which forms the soul of happiness."

l this, whatever its value, belongs to physical discipline. We shall
; go so far back in the history of our typical Chinese, but, confining
:selves strictly to the department of intellectual influences, take him
the time when the young idea first begins to shoot, and trace him
'ough the several stages of his development until he emerges a full
lged academician.*

2.—HOME EDUCATION.

With us the family is the first school. Not only is it there we make
› most important of our linguistic acquirements, but with parents who
› themselves cultivated there is generally a persistent effort to stimu-
e the mental growth of their offspring to develop reason, form taste,
d invigorate the memory.

In many instances parental vanity applies a spur where the curb
ght; to be employed, and a sickly precocity is the result; but in
ıeral a judicious stimulus addressed to the mind is no detriment to
› body, and it is doubtless to the difference of domestic training
:her than to race that we are to ascribe the early awaking of the
ntal powers of European children as compared with those of China.
e Chinese have, it is true, their stories of infant precocity—their Bar-
iers and Chattertons. They tell of Li-muh, who, at the age of seven,
s thought worthy of the degree of *tsin-shi*, or the literary doctorate,
l of Hie-tsin, the "divine child," who, at the age of ten, composed a
.ume of poems, still in use as a juvenile text book. But these are
; merely exceptions; they are exceptions of rarer occurrence than
ong us. The generality of Chinese children do not get their hands
l feet so soon as ours, because, in the first months of their existence,
›y are tightly swathed and afterward overloaded with cumbrous
rments. The reason for their tardier mental development is quite
ıalogous. European children exhibit more thought at five than
inese children of twice that age. This is not a partial judgment, nor
:he fact to be accounted for by a difference of race; for in mental ca-
:ity the Chinese are, in my opinion, not inferior to the "most favored
tion." Deprive our nurseries of those speaking pictures that say so

* For an account of the Hanlin or Imperial Academy, see the North American Re-
w for July, 1874, where much may be found to supplement the present paper. The
ıe periodical (some time in 1870) contains an article by the present writer on "Civil
rice competitive examinations in China."

much to the infant eye; of infant poems, such as those of Watts and Barbauld; of the sweet music that impresses those poems on the infant mind; more than all, take away those Bible stories and scraps of history which excite a thirst for the books that contain them, and what a check upon mental growth, what a deduction from the happiness of childhood! With us the dawn of knowledge precedes the use of books, as the rays of morning, refracted by the atmosphere and glowing with rosy hues, anticipate the rising of the sun. In China there is no such accommodating medium, no such blushing aurora. The language of the fireside is not the language of the books.

Mothers and nurses are not taught to read; nor are fathers less inclined than with us to leave the work of instruction to be begun by the professional teacher. This they are the more disposed to do, as an ancient maxim, sanctioned by classic authority, prohibits a parent being the instructor of his own children; still some fathers, yielding to better instincts, do take a pride in teaching their infant sons; and some mothers, whose exceptional culture makes them shine like stars in the night of female ignorance, have imparted to their children the first impulse in a literary career.

How many of those who have obtained seats in the literary Olympus were favored with such early advantages, it is impossible to ascertain. That the number is considerable, we cannot doubt. We remember hearing of two scholars in Chekiang who were not only taught the mechanical art of writing but the higher art of composition by an educated mother, both of them winning the honors of the academy.

As another instance of the same kind, the memoirs of the academy embalm the memory of such a noble mother, along with the name of her illustrious son, the Emperor Kienlung, with vermilion pencil, celebrating the talents of the one and the virtues of the other.

Dropping the "meed of a melodious tear" on the grave of an eminent literary servant, Chien-chén-keun, a member of the Hanlin, the Emperor says: "He drew his learning from a hidden source: a virtuous mother imparting to him her classic lore." In the prose obituary prefixed to the verses, His Majesty says: "Chien's mother, Lady Chén, was skilled in ornamental writing. In his boyhood it was she who inspired and directed his studies. He had a painting which represented his mother as holding the distaff and at the same time explaining to him the classic page. I admired it, and inscribed on it a complimentary verse."

A graceful tribute from an exalted hand, worth more in the estimation of the Chinese than all the marble or granite that might be heaped upon her sepulchre.

3.—COMMENCEMENT OF SCHOOL LIFE.

In general, however, a Chinese home is not a hotbed for the development of mind. Nature is left to take her own time, and the child vegetates until he completes his seventh or eighth year. The almanac is

then consulted, and a lucky day chosen for inducting the lad into a life of study. Clad in festal robe, with tasselled cap, and looking a mandarin in small, he sets out for the village school, his face beaming with the happy assurance that all the stars are shedding kindly influence and his friends predicting that he will end his career in the Imperial Academy. On entering the room he performs two acts of worship: the first is to prostrate himself before a picture of the Great Sage, who is venerated as the fountain of wisdom, but is not supposed to exercise over his votaries anything like a tutelar supervision. The second is to salute with the same forms, and almost equal reverence, the teacher who is to guide his inexperienced feet in the pathway to knowledge. In no country is the office of teacher more revered. Not only is the living instructor saluted with forms of profoundest respect, but the very name of teacher, taken in the abstract, is an object of almost idolatrous homage. On certain occasions it is inscribed on a tablet in connection with the characters for heaven, earth, prince, and parents, as one of the five chief objects of veneration, and worshipped with solemn rites. This is a relic of the primitive period, when books were few and the student dependent for everything on the oral teaching of his sapient master. In those days, in Eastern as well as Western Asia and Greece, schools were peripatetic, or (as Jeremy Taylor says of the church in his time) ambulatory. Disciples were wont to attend their master by day and night, and follow him on his peregrinations from state to state, in order to catch and treasure up his most casual discourses.

As to the pursuit of knowledge, they were at a great disadvantage, compared with modern students, whose libraries contain books by the thousand, while their living teachers are counted by the score. Yet, the student life of those days was not without its compensating circumstances. Practical morality, the formation of character, was the great object, intellectual discipline being deemed subordinate, and in such a state of society physical culture was, of course, not neglected. The personal character of the teacher made a profound impression on his pupils, inspiring them with ardor in the pursuit of virtue; while the necessity of learning by question and answer excited a spirit of inquiry, and favored originality of thought. But now all this is changed, and the names and forms continue without the reality.

A man who never had a dozen thoughts in all his life sits in the seat of the philosophers and receives with solemn ceremony the homage of his disciples. And why not? For every step in the process of teaching is fixed by unalterable usage. So much is this the case, that in describing one school I describe all, and in tracing the steps of one student I point out the course of all; for in China there are no new methods or short roads.

In other countries, a teacher, even in the primary course, finds room for tact and originality. In those who dislike study, a love of it is to be inspired by making "knowledge pleasant to the taste;" and the dull

apprehension is to be awakened by striking and apt illustrations, while, to the eager and industrious, steps to Parnassus are, if not made easy, at least to be pointed out so clearly that they shall waste no strength in climbing by wrong paths. In China there is nothing of this. The land of uniformity, all processes in arts and letters are as much fixed by universal custom as is the cut of their garments or the mode of wearing their hair. The pupils all tread the path trodden by their ancestors of a thousand years ago, nor has it grown smoother by the attrition of so many feet.

4.—STAGES OF STUDY.

The undergraduate course may be divided into three stages, in each of which there are two leading studies:

In the first the occupations of the student are committing to memory (not reading) the canonical books and writing an infinitude of diversely formed characters, as a manual exercise.

In the second, they are the translation of his text books (*i. e.*, reading) and lessons in composition.

In the third, they are belles lettres and the composition of essays.

Nothing could be more dreary than the labors of the first stage. The pupil comes to school, as one of his books tells him, "a rough gem, that requires grinding;" but the process is slow and painful. His books are in a dead language, for in every part of the empire the style of literary composition is so far removed from that of the vernacular speech that books when read aloud are unintelligible even to the ear of the educated, and the sounds of their characters convey absolutely no meaning to the mind of a beginner. Nor, as a general thing, is any effort made to give them life by imparting glimpses of their signification. The whole of this first stage is a dead lift of memory, unalleviated by the exercise of any other faculty. It is something like what we should have in our western schools if our youth were restricted to the study of Latin as their sole occupation and required to stow away in their memory the contents of the principal classics before learning a word of their meaning.

The whole of the four books and the greater part of the five classics are usually gone through in this manner, four or five years being allotted to the cheerless task. During all this time the mind has not been enriched by a single idea. To get words at the tongue's end and characters at the pencil's point is the sole object of this initial discipline. It would seem, indeed, as if the wise ancients who devised it had dreaded nothing so much as early development, and, like prudent horticulturists, resorted to this method for the purpose of heaping snow and ice around the roots of the young plant to guard against its premature blossoming. All the arrangements of the system are admirably adapted to form a safeguard against precocity. Even the stimulus of companionship in study is usually denied, the advantages resulting from the

formation of classes being as little appreciated as those of other labor saving machinery. Each pupil reads and writes alone, the penalty for failure being so many blows with the ferule or kneeling for so many minutes on the rough brick pavement which serves for a floor.

At this period fear is the strongest motive addressed to the mind of the scholar; nor is it easy to say how large a share this stern discipline has in giving him his first lesson in political duty, viz, that of unquestioning submission, and in rendering him cringing and pliant toward official superiors. Those sallies of innocent humor and venial mischief so common in western schools are rarely witnessed in China.

A practical joke in which the scholars indulged at the expense of their teacher I have seen represented in a picture, but never in real life. The picture, the most graphic I ever saw from a Chinese pencil, adorns the walls of a monastery at the Western Hills, near Peking. It represents a village school, the master asleep in his chair and the pupils playing various pranks, the least of which, if the tyrant should happen to awake, would bring down his terrible baton. But notwithstanding the danger to which they expose themselves, two of the young unterrified stand behind the throne, threatening to awake the sleeper by tickling his ear with the tail of a scorpion.

So foreign indeed is this scene from the habits of Chinese schoolboys, that I feel compelled to take it in a mystic rather than a literal signification. The master is reason, the boys are the passions, and the scorpion conscience. If passion gets at the ear of the soul while reason sleeps, the stings of conscience are sure to follow those

> "Pangs that pay joy's spendthrift thrill
> With bitter usury."

Thus understood it conveys a moral alike worthy of Christian or Buddhist ethics. Severity is accounted the first virtue in a pedagogue; and its opposite is not kindness, but negligence. In family schools, where the teacher is well watched, he is reasonably diligent and sufficiently severe to satisfy the most exacting of his patrons. In others, and particularly in charity schools, the portrait of Squeers in Nicholas Nickleby would be no caricature. With modifications and improvements in the curriculum, a teacher has nothing to do. His business is to keep the mill going, and the time honored argument *à posteriori* is the only persuasion he cares to appeal to.

This arctic winter of monotonous toil once passed, a more auspicious season dawns on the youthful understanding. The key of the cabala which he has been so long and so blindly acquiring is put into his hands. He is initiated in the translation and exposition of those sacred books which he had previously stored away in his memory, as if apprehensive lest another tyrant of *Tsin* might attempt their destruction. The light however is let in but sparingly, as it were, through chinks and rifts in the long dark passage. A simple character here and there is explained, and then, it may be after the lapse of a year or two, the

roceeds to the explication of entire sentences. Now for the the mind of the student begins to take in the *thoughts* of those en taught to regard as the oracles of wisdom. His dormant wake into sudden life, and, as it would seem, unfold the more n consequence of their protracted hibernation.
n it is like

> "The gl rious hour when spring goes forth
> O'er the bleak mountains of the shadowy north,
> And with one radiant glance, one magic breath,
> Wakes all things lovely from the sleep of death."

alue of this exercise can hardly be overestimated. When judi-employed it does for the Chinese what translation into and out dead languages of the west does for us. It calls into play , judgment, taste, and gives him a command of his own ver- which, it is safe to assert, he would never acquire in any other Yet even here I am not able to bestow unqualified commenda- This portion of the course is rendered too easy; as much too easy preceding is too difficult. Instead of requiring a lad, dictionary l, to quarry out the meaning of his author, the teacher reads the for him and demands of him nothing more than a faithful repro- of that which he has received; memory again, sheer memory! le as this method might be for beginners, when continued, as nese do through the whole course, it has the inevitable effect of ng independence of judgment and fertility of invention; quali- which Chinese scholars are by no means remarkable and for iciency of which they are no doubt indebted to this error of room discipline. Simultaneously with translation the student is d in the art of composition, an art which, in any language, yields ing but practice. In Chinese it is beset with difficulties of a r kind. In the majority of cultivated languages the syntax is ed by rules, while inflections, like mortise and tenon, facilitate the re of the sentence.
o in this most primitive form of human speech. Verbs and nouns istinguished by any difference of form, the verb having no voice, r tense, and the noun neither gender, number, nor person. Col- is everything: it creates the parts of speech and determines the ation of characters. The very simplicity of the linguistic struct- s proves a source of difficulty, preventing the formation of any ystems of grammatical rules as abound in most inflected lan- , and throwing the burden of acquisition on the imitative faculty; blem being not the erection of a fabric from parts which are ad- and marked, but the building of an arch with cobble stones.
ese uniform, unclassified atoms were indifferent to position, the of arrangement would be nothing and style impossible. But them appear to be endowed with a kind of mysterious polarity, controls their collocation and renders them incapable of com- ship except with certain characters, the choice of which would

seem to be altogether arbitrary. The origin of this peculiarity it is not difficult to discover. In this, as in other things among the Chinese, usage has become law. Combinations which were accidental or optional with the model writers of antiquity, and even their errors, have, to their imitating posterity, become the *jus et norma loquendi.* Free to move upon each other when the language was young and in a fluid state, its elements have now become crystallized into invariable forms. To master this preëstablished harmony, without the aid of rules, is the fruit of practice and the labor of years.

The first step in composition is the yoking together of double characters. The second is the reduplication of these binary compounds and the construction of parallels—an idea which runs so completely through the whole of Chinese literature that the mind of the student requires to be imbued with it at the very outset. This is the way he begins: The teacher writes, "wind blows," the pupil adds, "rain falls;" the teacher writes, "rivers are long," the pupil adds, "seas are deep," or "mountains are high," &c.

From the simple subject and predicate, which in their rude grammar they describe as "dead" and "living" characters, the teacher conducts his pupil to more complex forms, in which qualifying words and phrases are introduced. He gives as a model some such phrase as "The Emperor's grace is vast as heaven and earth," and the lad matches it by "The Sovereign's favor is profound as lake and sea." These couplets often contain two propositions in each member, accompanied by all the usual modifying terms; and so exact is the symmetry required by the rules of the art that not only must noun, verb, adjective, and particle respond to each other with scrupulous exactness, but the very tones of the characters are adjusted to each other with the precision of music.

Begun with the first strokes of his untaught pencil, the student, whatever his proficiency, never gets beyond the construction of parallels. When he becomes a member of the institute or a minister of the imperial cabinet, at classic festivals and social entertainments, the composition of impromptu couplets, formed on the old model, constitutes a favorite pastime. Reflecting a poetic image from every syllable, or concealing the keen point of a cutting epigram, they afford a fine vehicle for sallies of wit; and poetical contests such as that of Melibœus and Menalcas are in China matters of daily occurrence.

If a present is to be given, on the occasion of a marriage, a birthday, or any other remarkable occasion, nothing is deemed so elegant or acceptable as a pair of scrolls inscribed with a complimentary distich.

When the novice is sufficiently exercised in the "parallels" for the idea of symmetry to have become an instinct, he is permitted to advance to other species of composition which afford freer scope for his faculties. Such are the *shotiah*, in which a single thought is expanded in simple language, the *lun*, the formal discussion of a subject more or less extended, and epistles addressed to imaginary persons and adapted to all

conceivable circumstances. In these last, the forms of the "complete letter writer" are copied with too much servility; but in the other two, substance being deemed of more consequence than form, the new fledged thought is permitted to essay its powers and to expatiate with but little restraint.

In the third stage, composition is the leading object, reading being wholly subsidiary. It takes for the most part the artificial form of verse, and of a kind of prose called *wen-chang*, which is, if possible, still more artificial. The reading required embraces mainly rhetorical models and sundry anthologies. History is studied, but only that of China, and that only in compends; not for its lessons of wisdom, but for the sake of the allusions with which it enables a writer to embellish classic essays. The same may be said of other studies; knowledge and mental discipline are at a discount and style at a premium. The goal of the long course, the flower and fruit of the whole system, is the *wen-chang;* for this alone can insure success in the public examinations for the civil service, in which students begin to adventure soon after entering on the third stage of their preparatory course.

The examinations we reserve for subsequent consideration, and in that connection we shall notice the *wen-chang* more at length. We may however remark in passing that to propose such an end as the permanent object of pursuit must of necessity have the effect of rendering education superficial. In our own universities surface is aimed at rather than depth; but what, we may ask, besides an empty glitter would remain, if none of our students aspired to anything better than to become popular newspaper writers! Yet successful essayists and penny-a-liners require as a preparation for their functions a substratum of solid information. They have to exert themselves to keep abreast of an age in which great facts and great thoughts vibrate instantaneously throughout a hemisphere. But the idea of progressive knowledge is alien to the nature of the *wen-chang*. A juster parallel for the intense and fruitless concentration of energy on this species of composition is the passion for Latin verse, which was dominant in our halls of learning until dethroned by the rise of modern science.

5.—GRADES OF SCHOOLS.

The division of the undergraduate course into the three stages which we have described gives rise to three classes of schools: the primary, in which little is attended to beyond memoriter recitation and imitative chirography; the middle, in which the canonical books are expounded; and the classical, in which composition is the leading exercise. Not unfrequently all three departments are embraced in one and the same school; and still more frequently the single department professed is so neglected as to render it utterly abortive for any useful purpose. This, as we have elsewhere intimated, is particularly the case with what are called public schools. National schools there are none, with the exception

serted that "education is universal in China; even coolies are taught to read and write." In one sense this is true, but not as we understand the terms "reading and writing." In the alphabetical vernaculars of the west, the ability to read and write implies the ability to express one's thoughts by the pen and to grasp the thoughts of others when so expressed. In Chinese, and especially in the classical or book language, it implies nothing of the sort. A shopkeeper may be able to write the numbers and keep accounts without being able to write anything else; and a lad who has attended school for several years will pronounce the characters of an ordinary book with faultless precision, yet not comprehend the meaning of a single sentence. Of those who can read understandingly, (and nothing else ought to be called reading,) the proportion is greater in towns than in rural districts. But striking an average, it does not, according to my observation, exceed one in twenty or the male sex and one in ten thousand for the female; rather a humiliating exhibit for a country which has maintained for centuries such a magnificent institution as the Haulin Academy.

With all due allowance for the want of statistical accuracy where no statistics are obtainable, compare this with the educational statistics of the United States as given in the last census, (that of 1870.) Taking the country as a whole, the ratio of illiteracy among persons over ten years of age is 1 in 6; taking the Northern States alone, the ratio is 57 to 1,000, or about 1 in 18.*

6.—SYSTEM OF EXAMINATIONS.

To some it may be a matter of surprise that popular education is left to take care of itself in a country where letters are held sacred and their inventor enrolled among the gods; to others it may appear equally strange that mental cultivation is so extensively diffused, considering the cumbrous vehicle employed for the transmission of thought and the enormous difficulty of getting command of it. Both phenomena find their solution in the fact that the government does not value education for its own sake but regards it as a means to an end. The great end is the repose of the state; the instruments for securing it are able officers and education is the means for preparing them for the discharge of their duties. This done, an adequate supply of disciplined agents once secured, the education of the people ceases to be an object. The repose of the state, one of the ancient philosophers tells us, might be assured by a process the opposite of popular education. "Fill the people's bellies and empty their minds; cause that they neither know nor desire anything, and you have the secret of a tranquil government." Such is the advice of Laukeun, which I am inclined to take as an utterance of Socratic irony rather than Machiavelian malice. So far from subscribing to it in its literal import the Chinese government holds its officers responsible for the instruction of its subjects in all matters of

* Report of the Commissioner of Education, 1871.

duty; and in Chinese society the idea of instruction as the one thing needful has so wrought itself into the forms of speech as to become a wearisome cant. The red card that invites you to an entertainment solicits "instruction." When a friend meets you he apologizes for having so long absented himself from your "instructions;" and in familiar conversation, simple statements and opinions are often received as "precious instruction" by those who do not by any means accept them. It is more to the point to add that one of the classical books denounces it as the greatest of parental faults to bring up a child without instruction. This relates to the moral rather than to the intellectual side of education. The Chinese government does, nevertheless, encourage purely intellectual culture; and it does so in a most decided and effectual manner, viz, by testing attainments and rewarding exertion. In the magnificence of the scale on which it does this, it is unapproached by any other nation on the earth.

Lord Mahon, in his History of England, speaking of the patronage extended to learning in the period preceding Walpole, observes that "though the sovereign was never an Augustus, the minister was always a Mæcenas. Newton became master of the mint; Locke was commissioner of appeals; Steele was commissioner of stamps; Stepney, Prior and Gray were employed in lucrative and important embassies; Addison was secretary of state; Tickell, secretary in Ireland. Several rich sinecures were bestowed on Congreve and Rowe, on Hughs and Ambrose Phillipps." And he goes on to show how the illiberality of succeeding reigns was atoned for by popular favor, the diffusion of knowledge enabling the people to become the patron of genius and learning.

The Chinese practise none of these three methods. The Emperor, less arbitrary than monarchs of the west, does not feel at liberty to reward an author by official appointments, and his minister has no power to do so. The inefficiency of popular patronage is less to their credit, authors reaping oftentimes much honor and little emolument from their works. But it is something to be able to add that all three are merged in a regulated state patronage, according to which the reward of literary merit is a law of the empire and a right of the people. This brings us to speak of the examination system; not, indeed, a fresh theme, but one which is not yet exhausted. Though not new to the occidental public, these examinations are not properly understood, for the opinion has been gaining ground that their value has been overrated and that they are to be held responsible for all the shortcomings of Chinese intellectual culture. The truth is just the reverse. Those shortcomings (I have not attempted to disguise them) are referable to other causes, while for something like two thousand years this system of literary competition has operated as a stimulating and conservative agency, to which are due, not only the merits of the national education, such as it is, but its very existence. Nor has its political influence been less deep and beneficial. Essentially political in its aims, it has effected far more in the way of

political good than its authors ever ventured to anticipate. By enlarging the liberties of the people it contributes to the strength of the state, and by affording occupation to the restless and aspiring it tends to secure the tranquillity of the public. The safety valve of society, it provides a vent for that ambition and energy which would otherwise burst forth in civil strife and bloody revolution.

These examinations are of two kinds, which we shall distinguish as preofficial and postofficial; the former is the offspring of the latter, which it has outgrown and overshadowed. Their genesis is not difficult to trace; and, paradoxical as it may appear, these literary examinations date back to a period anterior to the rise of literature. The principles that lie at their foundation are found clearly expressed among the received maxims of government under the earliest of the historic dynasties. It was not, however, until the dynasties of the Tang and Sung (618–1120) that these examinations assumed substantially the form in which we now find them. Coming down from the past, with the accretions of many centuries, they have expanded into a system whose machinery is as complex as its proportions are enormous. Its ramifications extend to every district of the empire; and it commands the services of district magistrates, prefects, and other civil functionaries up to governors and viceroys. These are all auxiliary to the regular officers of the literary corporation.

In each district there are two resident examiners, with the title of professor, whose duty it is to keep a register of all competing students and to exercise them from time to time in order to stimulate their efforts and keep them in preparation for the higher examinations in which degrees are conferred. In each province there is one chancellor or superintendent of instruction, who holds office for three years, and is required to visit every district and hold the customary examinations within that time, conferring the first degree on a certain percentage of the candidates. There are, moreover, two special examiners for each province, generally members of the Hanlin, deputed from the capital to conduct the great triennial examination and confer the second degree.

The regular degrees are three:

1st. *Siu-tsai* or "Budding talent."

2d. *Ku-jin* or "Deserving of promotion."

3d. *Tsin-shi* or "Fit for office."

To which may be added, as a fourth degree, the Hanlin, or member of the "Forest of Pencils." The first of these is sometimes compared to the degree of B. A., conferred by colleges and universities; the second to M. A.; and the third to D. C. L. or LL.D. The last is accurately described by membership in the Imperial Academy; always bearing in mind how much a Chinese academy must differ from a similar institution in the west. But so faint is the analogy which the other degrees bear to the literary degrees of western lands that the interchange of terms is sure to lead to misconceptions. Chinese degrees represent

talent, not knowledge; they are conferred by the state, without the intervention of school or college; they carry with them the privileges of official rank; and they are bestowed on no more than a very small percentage of those who engage in competition. With us, on the contrary, they give no official standing; they attest, where they mean anything, acquirements rather than ability; and the number of those who are "plucked" is usually small in comparison with those who are allowed to "pass." But, after all, the new-fledged bachelor of an occidental college, his head crowned with the outlines of universal knowledge, answers quite as nearly to the sprightly *siu-tsai*,

> "Whose soul proud science never taught to stray
> Far as the solar walk or milky way,"

as does a western general to the chief of an undisciplined horde of so-called soldiers.

The following report of Panszelien, chancellor of the province of Shantung, though somewhat vague, will give us an idea of the official duties of the chief examiner and the spirit in which he professes to discharge them:

"Your majesty's servant," says the chancellor, "has guarded the seal of office with the utmost vigilance. In every instance where frauds were detected he has handed the offender over to the proper authorities for punishment. In reëxamining the successful, whenever their handwriting disagreed with that of their previous performances he at once expelled them from the hall, without granting a particle of indulgence. He everywhere exhorted the students to aim at the cultivation of a high moral character. In judging of the merit of compositions he followed reason and the established rules. At the close of each examination he addressed the students face to face, exhorting them not to walk in ways of vanity, nor to concern themselves with things foreign to their vocation, but to uphold the credit of scholarship and to seek to maintain or retrieve the literary reputation of their several districts. Besides these occupations, your servant, in passing from place to place, observed that the snow has everywhere exercised a reviving influence; the young wheat is beginning to shoot up; the people are perfectly quiet and well disposed; the price of provisions is moderate; and those who suffered from the recent floods are gradually returning to their forsaken homes. For literary culture, Hinchen stands preëminent, while Tsaochen is equally so in military matters."

This is the whole report, with the exception of certain stereotyped phrases, employed to open and conclude such documents, and a barren catalogue of places and dates. It contains no statistical facts, no statement of the number of candidates, nor the proportion passed; indeed, no information of any kind, except that conveyed in a chance allusion in the closing sentence.

From this we learn that the chancellor is held responsible for examinations in the military art; and it might be inferred that he reviews

the troops and gauges the attainments of the cadets in military history, engineering, tactics, &c.; but nothing of the kind; he sees them draw the bow, hurl the discus, and go through various manœuvres with spear and shield, which have no longer a place in civilized warfare.

The first degree only is conferred by the provincial chancellor, and the happy recipients, fifteen or twenty in each department, or 1 per cent. of the candidates, are decorated with the insignia of rank and admitted to the ground floor of the nine storied pagoda. The trial for the second degree is held in the capital of each province, by special commissioners, once in three years. It consists of three sessions of three days each, making nine days of almost continuous exertion — a strain to the mental and physical powers, to which the infirm and aged frequently succumb.

In addition to composition in prose and verse, the candidate is required to show his acquaintance with history, (the history of China,) philosophy, criticism, and various branches of archæology. Again 1 per cent. is decorated; but it is not until the more fortunate among them succeed in passing the metropolitan triennial that the meed of civil office is certainly bestowed. They are not, however, assigned to their respective offices until they have gone through two special examinations within the palace and in the presence of the emperor. On this occasion the highest on the list is honored with the title of *chuang yuen* or "laureate," a distinction so great that in the last reign it was not thought unbefitting the daughter of a *chuang yuen* to be raised to the position of consort of the Son of Heaven.

A score of the best are admitted to membership in the Academy, two or three score are attached to it as pupils or probationers, and the rest drafted off to official posts in the capital or in the provinces, the humblest of which is supposed to compensate the occupant for a life of penury and toil.

In conclusion, this noble institution — the civil service competitive system — appears destined to play a conspicuous part in carrying forward an intellectual movement the incipient stages of which are already visible. It has cherished the national education, such as it is; and if it has compelled the mind of China for ages past to grind in the mill of barren imitation, that is not the fault of the system, but its abuse.

When the growing influence of western science animates it with a new spirit, as it must do ere long, we shall see a million or more of patient students applying themselves to scientific studies with all the ardor that now characterizes their literary competition.

Six years ago the viceroy of Fuhkien, now a member of the imperial cabinet, proposed the institution of a competition in mathematics. The suggestion was not adopted; but a few days ago it was brought up in a new form, with the addition of the physical sciences, by Li-Hung-Chang, the famous governor of the metropolitan province. When adopted, as it must be, it will place the entire examination system on a new basis

and inaugurate an intellectual revolution whose extent and results it would be difficult to predict.

In remodelling her national education, Japan has begun with her schools, and, however reluctant, China will be compelled to do the same. Thus far her efforts in that direction have been few and feeble, all that she has to show being a couple of schools at Canton and Shanghai, with forty students each, three or four schools in connection with the arsenal at Fuhchow, with an aggregate of three hundred, and in the capital an Imperial College for Western Science, with an attendance of about a hundred.*

The proposed modifications in the civil service examination system will not only invest each of these schools with a new importance, and give a higher value to every educated youth; it will have the effect of creating for itself a system of schools and colleges on the basis of an existing organization.

In every department and district there is a government school with two or more professors attached. The professors give no instruction, and the students only present themselves at stated times for examination. With the introduction of science these professors will become teachers, and each of these now deserted schools a centre of illumination.

APPENDIX.

HARTFORD, CONN., *March* 17, 1876.

DEAR SIR: Inclosed herewith I beg to hand you a brief report of our Chinese students in this country. I should have written it much earlier had not my time been well taken up by other duties connected with the mission. Should you have any inquiries to make about our students, do not hesitate to put them.

I remain, your obedient servant,

YUNG WING.†

Hon. J. EATON,
Commissioner of Education, Washington, D. C.

Since the statement of January 7, 1873, respecting the arrival in September, 1872, of the first detachment of Chinese government students in this country was published, we have had three more detachments, of thirty students each, who came in succession in the years 1873–'74–'75; thus completing the whole number of one hundred and twenty, as originally determined upon by the Chinese government. These students

* The number of students in this institution is limited by the fact that they are on government pay and training for government service. The faculty of instruction consists of eleven professors, seven foreign and four Chinese.

A printing office with six presses has lately been erected in connection with the college, with a view to the printing and circulation of scientific works. These are expected to be supplied in part by the professors and students, who are at present largely occupied with the translation of useful books.

† Mr. Yung Wing is an alumnus of Yale College, (class 1876,) and has received the honorary degree of LL. D.

are located in towns in Connecticut and Massachusetts all along the Connecticut Valley.

The first detachment has been here about three years and a half, up to the 1st of March, 1876; second detachment has been two years and a half: third, one year and a half; and the fourth, only four months.

Most of the first detachment have joined classes in public schools and academies, and are now studying algebra, Greek, and Latin.

It is expected that about three years from now [March, 1876] they will be able to enter colleges and scientific schools. Those of the second and other detachments are still prosecuting their English studies, such as arithmetic, geography, grammar, and history. A few of them have exhibited decided taste for drawing and sketching Specimens of these, together with manuscripts of written examinations in all their studies, were sent to Hon. B. G. Northrop for the Centennial Exhibition. These papers may be taken as fair evidences of their progress in the different studies since they have been here.

Our students, ever since their arrival, have been favored with good health in a remarkable degree. With the exception of one case of death from scarlet fever in 1875, they have on the whole enjoyed excellent health. Besides the one who died a year ago, we have dismissed four, thus leaving us only one hundred and fifteen students.

There have been some material changes in the mission during the past year. Mr. Chin Lan Pin, one of the commissioners, who returned to China more than a year ago, has been succeeded by Ugen Ugoh Liang; Mr. Kwong Ki Chin has taken the place of Mr. Chan Laisun, translator; and Lin Yun Fong, a young tutor in Chinese, has been added to the staff of teachers.

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CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 2—1877.

REPORTS ON THE SYSTEMS OF PUBLIC INSTRUCTION IN FINLAND, THE NETHERLANDS, DENMARK, WÜRTEMBERG, AND PORTUGAL; WITH A PAPER ON THE UNIVERSITY OF LEIPZIG.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1877.

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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., September 8, 1877.

SIR: I have the honor to submit the following reports upon education in various foreign countries; some of them were prepared by their authors at my request, while I have had others translated from authentic sources.

The account of the public schools of Finland is by Prof. Felix Heikel, of the University of Finland, at Helsingfors. The visit of Professor Heikel to this country, and his interest in studying American methods of instruction and the public school systems of the different States, will be pleasantly remembered by the many educators who were so fortunate as to make his acquaintance. This Office has been in constant receipt of communications from him since his return to Finland, and I take pleasure in this opportunity of publicly expressing my appreciation of his services in the cause of universal education and of his special courtesies to this Bureau.

The papers herewith submitted include—

First. A detailed account of the public school system of Finland, by Professor Heikel.

Second. An account of the history, progress, and present condition of education in the Netherlands, together with an abstract of the annual report on the condition of primary, middle class, and higher schools in the Netherlands, for 1875–'76, issued by Dr. Heemskerk, minister of the interior, published at The Hague, 1877. This report has just been received and a summary of its contents prepared by Prof. C. H. Pluggé, of the Bureau of Education.

Third. An abstract, showing the present condition of education in the kingdom of Denmark, compiled and translated from official reports and various Danish educational publications received at this Office.

Fourth. An account of the public schools and other educational institutions of the kingdom of Würtemberg, recently prepared by Rev. J. Leonard Corning, at the request of the United States consul, J. S. Potter, esq.

Fifth. A translation of official statements of the condition of public education in the kingdom of Portugal, transmitted through the State Department, for which I am especially indebted to Hon. Benjamin Moran, United States minister to Portugal.

Sixth. A brief statement of the condition of the University of Leipzig in 1876, prepared by Hon. John H. Steuart, United States cónsul, for which I am indebted to the courtesy of the honorable Secretary of State.

As containing matter of interest to educators, I request your approval of the publication of these documents as a Circular of Information.

Very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

The Hon. the SECRETARY OF THE INTERIOR.

Approved, and publication ordered.

C. SCHURZ,
Secretary.

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PUBLIC SCHOOLS OF FINLAND.

BY

PROF. FELIX HEIKEL,
OF THE UNIVERSITY OF FINLAND.

THE PUBLIC SCHOOLS OF FINLAND.

COUNTRY, PEOPLE, AND GOVERNMENT.

The Grand Duchy of Finland is situated between the meridians of 20° and 32° 17′ east of Greenwich and between the parallels of 59° 48′ and 70° 6′ of north latitude, its area being 144,258 English square miles. Bounded on the west by the Gulf of Bothnia and on the south by the Gulf of Finland and Lake Ladoga, it almost reaches on the north the Arctic Sea, thus embracing a part of Lapland. The climate is severe. At the capital of the country, Helsingfors, on the south coast, the average temperature of the year is only 39.4° F. In July it rises to 62.2°, but it sinks in January and February to 18.9° F. The ground is covered with snow and all waters are frozen during five or six months of the year, and the soil is not very fertile. The chief natural features of the country being the myriad lakes, extensive pine forests, and granite hills which occupy the largest portion of its surface, "the country of the thousand lakes" has many beautiful aspects and views to please travellers and lovers of nature; but its cultivation is hard work. Only 5 or 6 per cent. of the area of the country is occupied by cultivated fields and meadows, and the agricultural production in rye, barley, oats, and wheat does not quite supply home consumption. Besides agriculture and cattle breeding, the chief occupations are working in the woods, (the products of the woods being the principal articles of export,) mining, (mostly iron,) navigation, manufactures and trades, and fishing and hunting. During the last fifteen years there were built railroads in the southern parts of the country and to St. Petersburg to the extent of 547 English miles. There is also a system of telegraphs reaching all parts of the country except Lapland; and during the summer months steamers run on all the larger lakes, many of which are connected with each other and with the sea by canals, keeping up a constant communication between the several seaports and foreign countries.

Two elements make up the people of Finland, the Swedes and the Finns. The former are smaller in number, but Swedish is the language of most of the cultivated classes and has until a late time been the only official language. The genuine Finns are a Turanian people, the only European language to which the Finnish bears any relation being the Hungarian. On January 1, 1875, the population was 1,882,600; of these, 1,608,800 were Finns, 265,000 Swedes, 6,000 Russians, 2,800 Laplanders, Bohemians, Germans, &c.

Finland was, from the twelfth century until 1809, a province of Swe-

den, whence Christianity and civilization were introduced. In the year named, Finland was conquered by Russia, and, in accordance with a generous assurance of Emperor Alexander I to its first parliament, connected with that empire as a grand duchy, with laws and government of its own. The Emperor of Russia is grand duke of Finland and the leader of its political relations with other countries, but in all other respects the government of Russia and that of Finland are distinct, Russia being an absolute and Finland a constitutional monarchy. The legislative body of Finland is the Diet, called "Landdag," composed of representatives of the four estates: the nobles, the clergy and teachers, the inhabitants of the cities, and the peasants or farmers. Each estate meets and votes in its own chamber, each chamber having one vote, and all four must unite on questions involving new or additional taxation or touching the fundamental laws. The representatives are elected by their respective estates, except the nobles, the head of each family or name in the nobility having a seat in the assembly; which, according to a fundamental act sanctioned by the Emperor Alexander II, must be called together at least once every five years. The administrative or executive department consists of a governor general and a senate of 18 members, appointed by the grand duke for a term of three years. The senate is divided into two departments, one of which is the highest court of appeals from lower courts, and six bureaus, one being for ecclesiastical and school affairs. With the exception of the governor general, all the functionaries of state and the church must be natives of Finland. They are as a rule appointed by reason of excellent character and retained during good behavior. The prevailing or state church is the Lutheran, the Russian or Greek Catholic Church not having more than 40,000 members. The grand duchy has also its own military force, coins of its own, (1 Finnish mark, silver, = 1 franc, or about 20 cents,) and separate finances. Its state revenues, which in 1874 amounted to 23,750,000 marks, are expended only on its own government, and customs are paid also for articles imported from Russia.

THE SCHOOL SYSTEM.

In Finland, as in other European countries, the higher or classical schools are much older than the schools of lower grades. The former were established during the Middle Ages through the church and for ecclesiastical purposes. Since that time these schools have been much changed, but they still devote themselves to classical instruction and admit pupils at a very early age. As a completion of the classical schools and as a higher educational and scientific institution, the University of Finland was founded in 1640.

The first step toward popular education was taken in 1686, in the enactment of a law obliging the clergy to hold an annual examination in every parish to ascertain the ability of the children to read and their knowledge of the catechism. Without these acquirements no person

can be confirmed by the church, which rite is necessary to obtain a license to marry or enjoy ecclesiastical privileges. This act is still the compulsory law of Finland, the result of which has been that the ability to read is pretty common among the people; but the means of extending the privileges of education to all classes were first provided in 1866 by a law establishing with state aid public common schools (Lägre elementärskolan) throughout the country. That was the best work of the "school revival" of Finland, where, during the last decade, much has been done for education. The old schools have been in many respects reformed and their course of instruction enlarged, and new schools for secondary instruction of both sexes and special schools of different kinds established; more attention is paid to school architecture and furniture and to methods of teaching; teachers' associations are founded and school meetings held; the state and local appropriations for school purposes have been widely increased, and the government of the schools separated from that of the church. At present the question of the day is to get good industrial and drawing schools in all parts of the country.

The school system now in actual operation embraces:

I. The popular schools for common education, established as well in country places as in the cities;

II. Secondary schools, which impart a general culture superior to that given in the popular schools and lay the foundation of the scientific instruction, which is carried further in the university and the polytechnicum. This grade includes (*a*) the lyceums, or the old classical schools; (*b*) the Realschulen, for the studies which in America are commonly called the "English branches;" and (*c*) the ladies' schools, for a higher "English" education of girls;

III. The university; and

IV. Special schools to meet the educational wants of different occupations and exceptional classes. Such are: (*a*) the polytechnic school; (*b*) the teachers' seminaries or normal schools; (*c*) the institute of agriculture and the lower agricultural schools; (*d*) the forest institute; (*e*) the navigation schools; (*f*) the military school; (*g*) the lower technical schools, Sunday and evening schools; (*h*) deaf mutes; and (*i*) schools for the blind.

SCHOOL GOVERNMENT.

Until 1869 the government of the schools was vested in the authorities of the church, and the ecclesiastical board of the senate is still the highest authority in school matters; but in that year a state board of education (Öfverstyrelsen för skolväsendet) was instituted, consisting of a president and six members, one of whom, with an assistant since 1875, is specially charged with the supervision of the popular schools and the teachers' seminaries. This board has the general supervision of all the popular and secondary schools, and must every year publish a statistical report on their condition and work. The board appoints teachers to the secondary schools, designating among the candidates

the person who, being of good moral character, presents the best evidence of his or her knowledge and ability to teach.

The local supervision is vested in a school committee, elected by the inhabitants of the city or town in which the school is situated. The school committees of the popular schools (of which women may be and often are members) have in their hands the economical management of the schools and the appointment of teachers. Some of the cities have elected special superintendents of their popular schools. All ordinary or regular teachers hold office during good behavior, and assistant teachers for a year or a term.

The university and the special schools, except the schools for deaf mutes and for the blind, which are subordinate to the state board of education, have their separate authorities.

I.—THE POPULAR SCHOOLS.

Reading and spelling are generally taught in the families or in the country by ambulatory village schools, which are under the supervision of a minister in each parish. These schools are of a very low grade, but they have until lately been the only opportunities offered for learning in country places. Reading Bible history and learning the catechism, generally by heart, are the only subjects taught, and the teacher, who moves from place to place and boards with the farmers whose children he or she teaches, does not know much more. In the cities primary instruction is given in permanent schools.

In 1863 a teachers' seminary was opened at Jyväskylä, and in 1866 a law was passed establishing public popular schools to give family and village school instruction in every commune or town. Since that time popular schools have continually been growing up in different localities. The country schools are generally ungraded, having only one (male or female) teacher, but in the cities the popular schools are of two grades, lower and higher, each grade having one or more classes and teachers. In the lower grades boys and girls are taught together, but in the higher grades they generally have separate schools or separate hours. In 1871 there were in actual operation 140; in 1872, 192; in 1873, 257; and in 1874, 324 schools, of which 100 were located in the cities and 224 in the country. The number of teachers was, in 1874, 387, of whom 189 were men and 198 women. One hundred and fifty-two of the teachers were graduates of the teachers' seminaries and 25 had studied at the university, the rest having come from different occupations.

In all these schools, except the city schools of lower grade, there were taught religion, reading, spelling, and writing of the mother tongue, arithmetic, geography, and singing, and besides these some or all of the following subjects, viz: history, elements of natural philosophy and history, drawing, geometry, and gymnastics. The girls are, in most of the schools, instructed in needlework and the boys in some simple manual work.

II.— SECONDARY SCHOOLS.

The schools of this grade have during the last five years been partly modified as to their course of instruction, in order to put them in accordance with the popular schools and meet different wants of life, the salaries of the teachers have been raised, and the names of the schools changed. The great grievance of these schools is the abundance of modern languages taught. There are both the "mother tongues," (Finnish and Swedish,) Russian, for political and commercial reasons, and the three great languages of civilization, German, French, and English. All these languages are not taught in every school, but a great deal of time is nevertheless spent on grammars and vocabularies. The course of instruction embraces also, as in the popular schools, religion, which is taught in all grades of the schools. The pupils admitted to these schools must be at least nine years of age, (the average being ten to eleven years,) and pass an examination in Bible history and the Lutheran catechism, in the reading, writing, and spelling of the mother tongue, in the elements of grammar, in the four fundamental rules of arithmetic, and in geography. Most of the pupils attain these acquirements in private schools or under private tutors; very few hitherto in the popular schools.

(1) The *Lyceums*, including the old "higher elementary schools" and "Gymnasia," carry their pupils (only boys) through seven classes, the highest of which occupies two years, to the university. The principal subjects taught, besides religion, Swedish, and Finnish, are Latin, five to seven hours a week in every class; mathematics, including arithmetic, algebra, geometry, and trigonometry; universal and Finnish history and geography; and German and Russian. Instruction is also given in natural philosophy and sciences, in logic, and as elective studies in Greek, French, drawing, singing, and gymnastics. In one lyceum at Helsingfors, called Reallyceum, Latin is an elective study and special attention is given to Russian and other modern languages.

Two of the lyceums, one Swedish at Helsingfors and one Finnish at Tavastehus, are called normal lyceums, because teacher candidates for any of the secondary schools, after having passed their examinations at the university, must spend one year at these institutions in pedagogical study and practice, under the direction of four head masters, in the subjects of religion, history and geography, mathematics, and languages.

In 1874 there were in all 18 lyceums, 9 of which were complete with seven classes, 7 had only the four lower classes, and 2 new ones, which are gradually becoming complete, only the two lowest classes.

(2) The *Realschulen*, or the old lower elementary schools, impart a more thorough instruction in the common or English branches of study than is given in the popular schools, and prepare their pupils for the polytechnic and other special schools. Much attention is paid to mathe-

matics, natural philosophy, and drawing. German and English are taught in all these schools, and in some of them Russian also. Instruction is also given in book-keeping. The number of these schools was, in 1874, 33, one being located in each of the cities of the country. The Realschulen are still under reorganization. Some of them are to have four classes, with a two years' course in the highest, and some only the four lower classes.

(3) In the *Ladies' schools* instruction is given in the following subjects, viz: religion, Swedish and Finnish, German and French, (either of them elective,) history and geography, arithmetic and elements of geometry, natural sciences, drawing, singing, gymnastics, and needle work. There were in 1874, in all, 7 public schools for ladies, one of them, at Helsingfors, being of a higher order, with seven classes, the others having only four classes. In the ladies' school at Helsingfors instruction is also given in the Russian language and in a separate class pedagogy is studied theoretically and practically by ladies who intend to be teachers in public or private ladies' schools.

All classes, with the exceptions named, have a course of one year each. Promotions from class to class are made only once a year, and, as many pupils do not meet the requirements, they have to remain two years in the same class.

III.—THE UNIVERSITY.

The University of Finland was founded at Åbo, the former capital of the country, in 1640, and, in consequence of a disastrous fire, moved to Helsingfors in 1828. The government of the institution rests with the chancellor, the rector, (or president,) and the consistory. The present chancellor is the eldest son of the Emperor, represented at Helsingfors by a vice chancellor, formerly professor in jurisprudence and member of the senate. The rector is designated by the chancellor every three years out of three members of the faculty who are elected by the regular professors. The consistory, of which the rector is president, is composed of the regular professors. The rector and the deans of the faculties are a commission or board for discipline.

There are four faculties or schools, viz, theology, jurisprudence, medicine, and philosophy, which latter is divded into two sections, the historico-philological and the mathematico-physical. In each faculty there are several "ordinary" or regular professors, and, when it is found to be necessary for the instruction of the students or profitable as regards scientific investigations, there are appointed "extraordinary" professors and docentes, all of whom must have acquired the diplomas of doctor in their respective faculties and publicly proved their capacity to undertake original scientific research. Besides these there are in the faculty of philosophy special "lecturers," or teachers of modern languages, and instructors in drawing, music, and gymnastics.

In the fall term 1875 there were in the faculty of theology 4 ordinary

professorships, (2 vacant;) in the faculty of law, 4 ordinary professors and 1 extraordinary; in the faculty of medicine, 6 ordinary professorships (1 vacant) and 2 extraordinary, 5 docentes, and 1 anatomical prosector; in the faculty of philosophy, the historico-philological section, 10 ordinary professorships, (2 vacant,) 2 extraordinary, and 7 docentes; the mathematico-physical section, 7 ordinary professorships, (2 vacant,) and 7 privatim docentes. The teachers of modern languages were 8, and the instructors of drawing, music, and gymnastics, 3. In all there are 31 ordinary professorships, (7 vacant,) 5 extraordinary professors, 19 privatim docentes,* and 12 special instructors, or a total of 60 teachers actually engaged.

To become a university student by matriculation the candidate must pass an examination in all the branches taught in the lyceums and enroll himself in one of the four faculties, and also in one of the six nations into which the students are divided according to the division of the country from which they come. At the head of each nation is a professor, called inspector, appointed by the chancellor for three years, and a vice president, called curator, who is elected by the members from the graduates belonging to the nation. Each nation has supervision of the morals of its members and holds weekly meetings for literary exercises. Its disciplinary power extends to the exclusion of an immoral member for a period not exceeding two years from the university and from Helsingfors. Each nation taxes its members for necessary expenses, both for its special purposes and for the general purposes of the six nations; these, as a corporation, own a beautiful brick building, erected by subscriptions from the whole country. In this students' house there are no lodging rooms, but rooms are provided for meetings of the nations and faculties, large reading rooms, supplied with periodicals of different countries, (including America,) a large hall for festive occasions, and a library of 17,000 volumes.

As regards studies and internal life, the university is established on the Swedish or German, and not on the English-American plan. There are no lodgings provided for the students in the university buildings, no classes or required curriculum of studies, and no special text books. The instruction is given by lectures, and not by recitations. The student, after consultation with the dean of the faculty to which he belongs, is free to choose whatever studies he pleases and is referred to the best authors in the respective sciences; but the students who are not graduates of any faculty must regularly attend the lectures of at least two professors. Every ordinary professor lectures at least four hours a week and the extraordinary professor and the docentes two hours a

* These are the Privatdocenten of the German universities. Authorized by the authorities to deliver lectures, under certain restrictions, on the same subjects which the regular professors teach, they form a very useful part of the instructing body of a German university, for which in this country we have no equivalent either in name or fact.

week. The lectures may also be and are often attended by persons not matriculated.

Each faculty awards, on approved examinations in the prescribed studies, its own diplomas, there being two degrees, that of candidate or master and that of licentiate or doctor in each faculty; but nobody can take a learned degree in the faculties of theology, medicine, and jurisprudence if he be not a graduate of the philosophical faculty. To get the diploma of doctor in any faculty the candidate is required to write and print, and before the professors of the faculty to publicly defend, a scientific treatise on some subject in which he has made original research.

Besides these learned degrees there are many examinations for special professions, for ministers, for lawyers and judges, for teachers, &c., which are exacted before the student can obtain any official appointment. The aspirants to these, comprising the greater part of the students, are not obliged to take any philosophical degree before entering their respective faculties, although many do so. In the faculty of medicine there are, however, no civil service examinations separate from those for the learned degrees, because every student of that faculty must have graduated in the faculty of philosophy.

In the fall term of 1875 there were 642 resident students at the university, exclusive of about 250 who were matriculated, but for various reasons absent from Helsingfors. No fixed time of residence being required for any examination, many students, on the ground of the high prices of living at Helsingfors or for other reasons, spend a part of their study time in the country as private tutors or studying in their homes; and many graduates, although not intending to take any higher degree and partly occupied by other business, continue to be members of the university in order to have the advantage of using its libraries, collections, and other apparatus of learning. Of these 642 students 146 were graduates of the philosophical faculty and partly also of some of the other faculties, 111 belonged to the faculty of theology, 151 to the faculty of jurisprudence, 61 to the faculty of medicine, and 319 to the faculty of philosophy, with 146 in the historico-philological and 173 in the mathematico-physical sections.

The university, which is the cherished pride of the people of Finland, is richly endowed. The funds of the university, exclusive of all buildings and their equipments, amounted in 1874 to 3,559,355 marks, (about $712,000 gold.) The total income of the university the said year was 855,881 marks, (about $170,000 in gold,) two-thirds of which were directly or indirectly appropriated by the state. The expenses amounted the same year to 625,978 marks, (about $125,000 in gold,) viz: salaries, 371,313 marks; libraries and collections, 65,559 marks; repair of buildings, &c., 24,383 marks; and various purposes, 90,534 marks; thus leaving a surplus of income of 229,903 marks to be devoted to the increase of the funds.

No tuition fees are charged the students, but on the contrary many allowances or stipends are paid indigent students. The university also sends, at its own cost, every year at least three graduate students to study in foreign countries, one of them especially for pedagogical studies.

The buildings of the university, all of brick and erected in a beautiful style, are: (1) the university house, in which are the lecture rooms, halls, and offices; (2) the library, in which there are 140,000 volumes; (3) chemical laboratory and lecture room, erected in 1870; (4) anatomical museum and dissection rooms; (5) astronomical observatory; (6) meteorological and magnetic observatory; (7) botanic garden and conservatory; (8) gymnastic halls; and (9) the above named students' house. In addition to the collections and facilities of illustration indicated by the buildings in which they are placed, there are the mineralogical and geological cabinets, the zoölogical collections, the ethnographical and historical museum, collections of coins and medals, physical apparatus, &c. There are also under the charge of the professors of medicine two large state hospitals to which the students of medicine resort for instruction and practice.

IV.—THE SPECIAL SCHOOLS.

(*a*) The *polytechnic school* at Helsingfors admits, on examination in the branches taught in the Realschule, pupils of at least 14 years of age. The school is divided into two departments, the preparatory and the technical. In the former, which occupies a term of two years, the instruction is the same for all pupils, drawing, mathematics, and natural philosophy being the principal subjects, besides some English, German, and Russian. The technical department provides special courses of instruction for (1) architects, (2) civil engineers, (3) mechanical engineers and constructors, (4) chemists and mining engineers, and (5) surveyors, each course occupying two to five years, exclusive of the time spent in the preparatory department. This institution, which received its present organization in 1872 and is wholly supported by the state, had in 1874 8 ordinary and 7 assistant teachers. The number of pupils was 105, 34 of whom belonged to the preparatory department, and 15 were extra pupils not following the regular course of instruction.

(*b*) The *teachers' seminaries* or normal schools were established to meet the want of good teachers for the popular schools. There are 3 seminaries in operation, one Finnish, with separate departments for ladies and gentlemen, established in 1863, and two Swedish, one for ladies and the other for gentlemen, established in 1872 and 1873. The course of instruction, which embraces all the subjects taught in the popular schools and pedagogy, occupies four years, the last being devoted to practice in the model schools and Kindergarten attached. Candidates must have completed their eighteenth year. A part of the students get lodgings, fuel, and board at the institution. Tuition is free and stipends or allowances are made by the state toward the expenses for

board, books, &c., of indigent students. In 1874 there were 272 pupils at these institutions.

(*c*) *Agricultural schools.*—There is one institute of agriculture, established at Mustiala in 1837, and nine agricultural schools of lower grades, established at different periods since 1858. The institute is divided into two departments, one scientific, requiring a thorough common education of the students entering, and the other giving the elements of the agricultural sciences in the most popular and practical form. Each course occupies two years. The scientific course is exclusively attended by persons of educated families, many of them having been students at the university before entering the institute, and the popular one mostly by sons or servants of peasants or farmers. To the institute is attached a large farm, which the pupils have to cultivate in order to get practice in scientific agriculture. The lower agricultural schools have only the popular course and are located on private or public farms. In 1873 the aggregate number of pupils was 235 and that of teachers 28.

There are also several schools for butter and cheese making, some of which are connected with the agricultural schools. In each of the eight counties there is a plough-instructor, who goes round and spends some time with farmers who wish his instruction in adopting new methods in the cultivation of their fields and the breeding of cattle.

(*d*) A *forest institute* was established in 1862, to secure intelligent inspectors and managers of the large public forests. The institute was closed in 1866 on account of the lack of pupils, but it was reopened in 1874. The course extends throughout two years and embraces the forest sciences. The candidates must be graduates of the lyceums or students of the university. During the summer vacation the pupils are required to to practise in the public forest, within the boundaries of which the school is situated. The students have free tuition and lodging at the institute.

(*e*) The *navigation schools* are six in number, three of them established in 1812, each with two departments, for mates and for captains. Before entering the mates' department the candidate must have been at sea four years, and, for the captains' department, besides this, have practised as mate two years. Instruction is given in mathematics and the science of navigation, in English, book-keeping, and penmanship. The course in each department can be completed in one year, but requires commonly two to three years. These schools are open only from the middle of October to the end of April. The captains on steamers have, besides the course in navigation, to pass an examination in the management of engines.

(*f*) A *military school* has since 1780 been in operation at Fredriksbaum. Besides the preparatory course of three years in the common subjects of instruction, the special course in the military branches occupies the same term of three years. All the pupils reside in the build-

ings of the institution, and are under constant supervision and military discipline. The management of the school is divided between the Finnish authorities and the Board of Russian Military Schools at St. Petersburg. The school is also assisted in a slight degree by the Russian government. The language of instruction is Swedish, except in a few branches in the special department, in which it is Russian. Only sons of Finnish parents are admitted as pupils. In 1873 the school had 122 pupils and 17 teachers, exclusive of the military officers.

(*g*) *Technical Realschulen* the two schools are called which were established in 1847 to give the instruction needed by boys going into the mechanical trades. The course of instruction extends through four years and embraces, besides the common branches, geometry, algebra and trigonometry, physics, chemistry, mineralogy, and mechanics. The pupils must be at least 12 years of age. Small shops for instruction in mechanics are attached to these schools.

For almost the same purpose, or for giving to apprentices the elements of mechanical science needed in their occupations, there is in every city a *Sunday school*, kept on Sunday evenings, and in several places besides this two or three evenings a week. These Sunday schools are thus quite different from the American Sunday schools for religious instruction.

But all these schools are not in a condition to meet the wants of the industrial classes. They are therefore to be completely reorganized, and a system of industrial drawing and evening schools is to be established reaching all parts of the country.

(*h*) The *schools for deaf-mutes* are four in number. The first was established in 1858. The pupils generally board in the school and are instructed by signs in the common branches of study, including religion, and in some manual work. The speaking method is also used with pupils capable of learning it.

(*i*) The *asylums for the blind*, two in number, were established, the first in 1866 and the other in 1870. Both of them are boarding schools. The pupils are taught to read the blind types and oral instruction is given in the common branches. Musical exercises are much in use. The pupils also get instruction in some manual work in order to be able to support themselves. The aggregate number of pupils was in 1873 only 32 and that of teachers 7.

SCHOOL ATTENDANCE.

The attendance on all the public schools, except the popular and the Sunday schools, is very regular. Pupils are, as a rule, admitted only at the beginning of the school year, and in case of sickness the parents or guardians must give written notice thereof to the master of the school. This rule cannot for various reasons be kept up in the popular schools, especially in those in the country. Of the pupils enrolled in the popular schools in the year 1874 and 1875, about 65 per cent. attended

the school the whole year, 20 per cent. more than four months, and 15 per cent. less than four months. The explanation of this irregularity is to be sought in the poverty of the parents and the great distances between the home and the school.

SCHOOL YEAR, DAYS, AND HOURS.

The schools of Finland are commonly in operation from the 1st of September to the middle of June, with a vacation of 4 weeks at Christmas. The popular schools must be open at least 30 weeks a year in order to get the state aid, the average of the last year being 33 weeks. Some of the special schools fix their terms according to the seasons and other circumstances. In the day schools the work is going on 6 days a week (except in some popular schools 5 days) and 4 to 6 hours a day.

THE LANGUAGE OF INSTRUCTION.

The population of Finland being partly Finnish and partly Swedish, the schools too, as far as the language of instruction is concerned, are either Swedish or Finnish, depending on what is the mother tongue of the majority of the pupils. Occasionally both languages are used at the same school, as English and German in many schools of Ohio and other States. In the secondary schools the other mother tongue is a subject of instruction, so that the educated people generally understand and are able to speak both languages. At the university the professors, with two or three exceptions, lecture in Swedish. Russian is studied as a foreign language, there being only two Russian popular schools in Finland. These are situated at the eastern boundary.

SCHOOL ARCHITECTURE AND FURNITURE, METHODS, ETC.

School architecture has not reached any high standard, most of the school-houses being old fashioned, very inconvenient, and uncomfortable. Many of the public schools are also located in rented houses, not at all adapted to the purpose of teaching; but improvement is being made. As for school furniture, the single or double seat chairs and desks on the American plan are very commonly introduced instead of the old long benches, with or without desks of the same length. The public schools, especially those of higher grade, are, as a rule, very well equipped with apparatus of all kinds. Most if not all of the schools have their own libraries for the use of the teachers and pupils; and, although in Finland as in America there is no royal road to learning, the methods of teaching have during the last ten or fifteen years been much more rational. Oral instruction is much in use, perhaps too much. Corporal punishment is totally abolished in all secondary schools and many others, without any injury to the discipline, which is as good as in the old times when the head master was the birchen whip.

TUITION FEES.

Although the previously mentioned schools are public, they are not all free, small tuition fees being charged in all secondary schools and in many of the popular and special schools. Those fees amount, in popular schools, to 2 marks a year; in the Realschulen, to 12 or 24 marks; in the lyceums and ladies' schools, to 40 marks, (except in the ladies' school at Helsingfors, where the yearly fee is 80 marks;) and, in the polytechnic school, to 60 or 80 marks; but in all schools there are some free places, nobody being excluded on account of poverty. Especially in the popular schools, only a part of the pupils pay, and in many of these schools no fees are charged. In the university and in many special schools there are no tuition fees at all.

TEACHERS' SALARIES.

The salaries of the teachers vary in the different schools. In the popular schools in country places the average salary at present is 1,000 marks, (about $200;) somewhat more for the gentlemen and somewhat less for the lady teachers. The teachers of the popular schools in cities receive a little more. In the secondary schools, the ordinary male teachers receive 2,800 to 4,800 marks and the ladies 1,600 to 2,400. The rector or president of the school has, besides this, 300 to 1,000 marks. The ordinary teachers of the polytechnic school are paid 4,200 to 6,000 marks and those of the teachers' seminaries 3,400 to 5,200 for males and 1,400 to 2,000 for females. At the university, ordinary professors receive 7,500 to 9,000 marks, the extraordinary professors 5,000 marks, the docentes 2,500 to 3,500 marks, and the special instructors in drawing, gymnastics, and music 3,000 marks. Besides this, the president of the university has 4,000 marks and the deans and inspectors of the faculties or nations receive 1,000 marks each. In connection with the salaries here given, it is to be recollected that the money has a much greater purchasing power in Finland than in America.

The state also pays teachers who have worked faithfully for 30 or 35 years their full salary as a yearly pension during life. In case of incurable sickness at an earlier time, a pension of smaller amount is allowed.

THE SUPPORT OF THE SCHOOLS.

All the public schools of Finland are either wholly or in great part supported by the state. The popular schools are really town institutions; but the state pays 600 to 900 marks to every male teacher and 400 to 600 marks to every lady teacher, depending on the time spent in school work. The ambulatory village schools are of private character and have no state aid. The towns supply the Realschulen, Sunday schools, and navigation schools, and their teachers, with rooms and fuel; but all other schools are, as a rule, wholly supported by the state. As

shown below, the state appropriations for school purposes amount to 2,219,628 marks, (or about $443,000, gold,) making 9.4 per cent. of all the ordinary state expenses, which in 1874 were 23,749,710 marks. Of these appropriations a small part comes back to the state in the shape of tuition fees, which in the schools wholly supported by state money do not go into the school treasury, but are paid back to the government. On the other hand, however, the amount given does not include the incidental expenses for school-houses, furniture, &c.

PRIVATE SCHOOLS.

Besides the private schools of primary grade, the number of which is not small, there are, as far as known, the following private schools, several of which receive small subsidies from the government, viz: 4 lyceums, 33 ladies' schools, 2 schools of commerce, 2 schools of art, 1 industrial and drawing evening school at Helsingfors, and 1 school of horticulture.

Statistics gathered from official reports of the bureau of statistics at Helsingfors,* 1870 *to* 1875, *inclusive.*

Names of schools.	Number of schools and the language of instruction.					Pupils.			Teachers.			Income in Finnish marks.†			
	Total.	Swedish.	Finnish.	Swedish and Finnish.	Russian or German.	Male.	Female.	Total.	Male.	Female.	Total.	State appropriations.	Town appropriations.	From other sources.	Total.
A.—PUBLIC SCHOOLS.															
I. *Popular schools*	324	68	149	5	2	8,257	6,638	14,895	189	198	387	166,550	204,486	65,645	436,681
II. *Secondary schools:*															
Lyceums	18	10	8	.....	.....	2,637	.....	2,637	239	2	241	676,187	7,000	9,181	692,368
Realschulen	33	13	20	.....	.....	1,602	.....	1,602	120	3	123	143,578	38,351	5,753	187,682
Ladies' schools	7	7	.....	.....	.....	.....	713	713	34	32	66	95,982	571	.....	96,553
Total	58	30	28	5	2	4,239	713	4,952	393	37	430	915,747	45,922	14,934	976,603
III. *The university*	1	.....	.....	1	.....	642	.....	642	60	.....	60	569,268	.....	286,613	855,881
IV. *Special schools:*															
The polytechnic school	1	1	.....	.....	.....	105	.....	105	15	.....	15	66,453	.....	.....	66,453
Teachers' seminaries	3	2	1	.....	.....	98	174	272	17	8	25	168,320	.....	.....	168,320
The institute of agriculture	1	.....	.....	1	.....	68	.....	68	8	.....	8	43,000	.....	11,000	54,000
Agricultural schools	9	2	6	1	.....	130	37	167	19	1	20	106,000	.....	.....	.....
The forest institute	1	1	.....	.....	.....	9	.....	9	3	.....	3	14,700	.....	.....	.....
Navigation schools	6	4	1	1	.....	189	.....	189	25	.....	25	40,440	4,800	.....	.....
Technical Realschulen	2	2	.....	.....	.....	125	.....	125	15	.....	15	27,380	.....	.....	.....
Sunday or evening schools	34	9	19	6	.....	2,111	.....	2,111	77	2	79	14,000	3,290	.....	.....
Schools for deaf mutes	4	1	1	2	.....	52	47	99	7	4	11	27,720	.....	.....	.....
Schools for the blind	2	1	1	.....	.....	16?	16?	32	3	4	7	25,050	.....	.....	.....
Total	63	23	29	11	.....	2,903	274	3,177	189	19	208	533,063	.....	.....	.....
Total of public schools	446	121	206	17	2	16,041	7,625	23,666	831	254	1,085	2,184,628	.....	.....	.....
B.—PRIVATE SCHOOLS.															
Lyceums	4	2	1	.....	1	397	.....	397	47	5	52	4,000	.....	.....	.....
Ladies' schools	33	23	5	2	3	139	1,464	1,603	84	143	227	10,800	.....	.....	.....

* These statistics embrace neither the ambulatory village schools, of which there are several in each parish, nor the elementary private schools, the number of which is very large.

† The Finnish mark is the equivalent of the French franc, about twenty cents of United States currency.

Statistics gathered from official reports of the bureau of statistics at Helsingfors, 1870 to 1875, inclusive—Continued.

Names of schools.	Number of schools and the language of instruction.					Pupils.			Teachers.			Income in Finnish marks.†			
	Total.	Swedish.	Finnish.	Swedish and Finnish.	Russian or German.	Male.	Female.	Total.	Male.	Female.	Total.	State appropriations.	Town appropriations.	From other sources.	Total.
B.—Private Schools—Continued.															
Schools of commerce	2	1	.....	1	.....	54	18	72	5	.....	5	7,000	6,057	.....	.....
Schools of art	2	2	.....	.....	.....	34	44	78	3	.....	3	8,000	.....	.....	.....
Industrial drawing school	1	.....	.....	1	.....	123	50	173	10	2	12	1,200	5,000	.....	.....
School of horticulture	1	1	.....	.....	.....	8	.....	8	1	.....	1	4,000	.....	.....	.....
Total	43	29	6	4	4	771	1,592	2,331	150	150	300	35,000	.....	.....	.....
Grand total of public and private schools	489	150	212	21	6	16,796	9,201	25,997	981	404	1,385	2,219,628	.....	.....	.....

EDUCATION IN THE NETHERLANDS:

ITS HISTORY AND PRESENT CONDITION.

BY

C. H. PLUGGÉ,
TRANSLATOR OF THE BUREAU OF EDUCATION.

EDUCATION IN THE NETHERLANDS.*

GENERAL REMARKS.

The Kingdom of the Netherlands, (commonly called Holland,) since the independence of Belgium in 1830 is divided into eleven provinces, namely: North Brabant, Gelderland, North and South Holland, Zealand, Utrecht, Friesland, Overijssel, Groningen, Drenthe, and Limburg. It has an area of 20,527 square miles and a population of 3,809,527.

The Grand Duchy of Luxemburg, which is connected with the kingdom, though possessed of a separate administration, has an area of 1,592 square miles and 197,528 inhabitants.

The capital of the Netherlands, The Hague, has 100,254 inhabitants. The commercial centres are Amsterdam, with a population of 289,982, and Rotterdam, with a population of 132,054. In 1785 Amsterdam had a population of 935,000 souls.

The colonial possessions of the Netherlands embrace an area of 666,756 square miles and a population of 24,386,991.

The kingdom derives a considerable revenue from its colonies, arising from the sale of colonial produce, chiefly coffee and tin.

The leading occupations of the Hollanders, who are universally known as a thrifty people, are farming, dairy work, the fisheries, manufacturing, and commerce.

Religious liberty, liberty of conscience, and complete social equality are granted by the constitution to the members of all religious sects. The royal family and the majority of the inhabitants belong to the Reformed Church; but the Roman Catholics are about equal in number.

HISTORICAL SKETCH OF EDUCATION.

The original inhabitants of the country now included in the Netherlands and Belgium, the Belgæ, the Batavi, and the Frisii, figure in the conquests of the Roman armies under Julius Cæsar and in the spread of Christianity under Anglo-Saxon bishops and monks. Christianity was introduced by Bishop Willibrord, who landed on the coast of the Netherlands about A. D. 690.

The earliest school of which there is any record was that of St. Martin at Utrecht, which tradition reports to have been founded by Charles

* This summary has been compiled from the following publications: Buddingh's Geschiedenis van opvoeding en onderwijs in de Nederlanden: 's Gravenhage, 1842; Annales Academici: Lugduni-Batavorum, 1840-1872; Verslag van den staat der hooge-, middelbare en lagere scholen in het Koningrijk der Nederlanden, over 1848-1876.

Martel, King of the Franks, (690–741,) and at which his son Pepin received his education. This school was suppressed during the invasion of the Normans, but it was afterward reëstablished and attended by many pupils from the neighboring countries. Bruno, son of Emperor Henry the Fowler, who afterward became the famous archbishop of Cologne and archduke of Lothringen, was educated at the same school. In the twelfth century Utrecht possessed five flourishing schools, which were under the control of the clergy. There were, besides, several good schools in connection with the convents of Aduwert, Nijmwegen, Middleburg, Zealand, and Egmond. In addition to these schools, we find several public schools, which were established in the twelfth century by the more wealthy communities. The latter schools were styled "School en Schrijfambacht," "Schoolen en kostern," (school and writing office; schools and clerks' houses.) The "schoolmijsters" (schoolmasters) were looked upon as professional men. They formed distinct guilds and fraternities, and were highly respected by their fellow citizens. The public schools were divided into "groote en bijschoolen," (higher and lower schools.) Latin was taught only in the higher schools, which had generally the largest number of pupils. One of them, the school of Zwolle, numbered 1,000 pupils from the Netherlands and Germany. The Brethren of the Common Life, whose first school was founded by Gerhard the Great, of Deventer, (1340–1384,) did much for the promotion of education in different European countries. According to Schwarz, the number of schools under the control of this order was, in 1430, 45 and in 1460, 135.

During the fifteenth century we find in the Netherlands many famous scholars, among whom Wessel, Agricola, Hegius, and Erasmus have a world wide reputation.

In 1575 the University of Leyden was founded, which may be called the bulwark of Protestant doctrine in the Netherlands. Other universities were successively established, at Franeker in 1585, at Groningen in 1614, at Utrecht in 1638, and at Harderwijk in 1648. The universities of Franeker and Harderwijk were closed in 1811.

During the eighteenth century there was a remarkable decline in the zeal for education. Cuvrier, in 1811, reported very unfavorably upon the condition of the Dutch schools. Under the French government established in Holland by Napoleon I, some reforms were introduced, which were afterward further developed by King William I. Since that time the higher schools in the Netherlands have regained their former reputation to such an extent that the system of education in Holland has attracted the attention of many foreign educators. A prominent feature of the Dutch school laws is the outspoken opposition to the principle of denominational schools. The first school law was passed April 3, 1806. This law prescribed that the inspection of schools should be intrusted to inspectors, who were to constitute in each province a permanent school board. In larger communes there

were to be, in addition to these, local school boards. No school was to be established without the special permission of the provincial or communal government. The course of instruction embraced reading, writing, arithmetic, Dutch, French, or other modern languages, geography and history. Schools were to be entirely independent of ecclesiastical influence. The school books were to be subjected to a strict inspection of the school boards. Nobody was allowed to teach without passing the prescribed examinations.

When, on the establishment of the Kingdom of the Netherlands, a new constitution was framed, a decree, dated March 6, 1815, ordained that the school law of 1806 should be taken as the basis for further regulations concerning public instruction. Shortly afterward, however, a vehement opposition arose in the southern provinces (the present Kingdom of Belgium) among the Roman Catholics, against the prohibition of religious teaching in the schools. They energetically objected to the interference of the state in educational matters. Their dissatisfaction grew from year to year, and finally gave rise to the revolution in 1830, which was followed by a permanent separation of Belgium from Holland.

In the northern provinces, too, voices were heard in favor of liberty of instruction. By a royal decree of January 2, 1842, the influence of the ecclesiastical element attained an important ascendency. Thenceforth the religious persuasion of the teachers who applied for a place was to be taken into account. The clergy of the various denominations were allowed to examine and to approve the school books before they could be introduced into the schools. Religious instruction made no part of the regular course of study, but the school rooms were to be placed at the disposal of the clergy, before or after the regular school hours, for religious instruction.

The results of the operation of the law of 1806 and the decree of 1842 were mentioned as satisfactory by several foreign educators who wrote reports on the condition of education in the Netherlands. Nevertheless the opinion prevailed among leading educationists that education ought to be more universal; that the teachers ought to be better trained and their salaries increased. The first important step toward reform was the adoption of the educational provision in the new constitution of 1848, which is still in force. Article 194 of the constitution is thus worded:

Public instruction shall be an object of incessant care on the part of the government.

Public instruction shall be regulated by law, with due deference to all religious creeds.

The legal authorities shall provide for sufficient public elementary instruction throughout the kingdom.

Instruction is free, and it is to be under the supervision of the secular authorities, whose functions shall be regulated by law.

A report on the state of higher, middle class, and elementary instruction shall be submitted to the States-General (parliament) every year by the Crown.

SCHOOL LAW.

Pursuant to the educational provision in the constitution, the ministers of the King repeatedly prepared and laid before the States General plans of laws for the regulation of elementary instruction, which, however, were never taken into consideration. At length, in 1857, a law was passed which is still in force and of which the following is a synopsis:

ART. 1. Elementary instruction is divided into ordinary and more extended instruction. Ordinary instruction includes reading, writing, arithmetic, the Dutch language, history, the rudiments of natural philosophy, and singing. The more extended instruction is considered to include the rudiments of modern languages, of mathematics and agriculture, gymnastics, drawing, and needle work.

ART. 2. Elementary instruction may be given either in schools or in the dwellings of the parents or guardians of the children.

ART. 3. Public schools are those established and maintained by the communes, the provinces, and the government, severally or in common; all others are private schools. Subsidies may be granted to private schools on the part of the communal, provincial, or state authorities. Schools thus assisted shall be open to all children, without distinction of religious creed.

ART. 4. No school instruction shall be given in buildings declared detrimental to health by the district school inspector or insufficient in regard to room for the children attending the school.

ART. 5. School education shall be given by head masters and assistant teachers, head mistresses and female assistant teachers, and both male and female pupil teachers.

ART. 6. Nobody is allowed to give elementary instruction who does not possess the proofs of capacity and morality. Foreigners must have a special permission from the government.

ART. 7. The provisions of the preceding article are not applicable to graduates of universities who have received special permission to give instruction.

ART. 8. Any person giving elementary instruction without being qualified shall be prosecuted.

ART. 9. On every imposition of a fine it shall be declared by the judge that failure in the payment of the same shall be punished with imprisonment.

ART. 10. The license to give elementary instruction is revoked if the holder be convicted of theft, swindling, perjury, breach of trust, or immoral conduct.

ART. 11. Any person having forfeited the license for giving elementary instruction cannot recover it.

ART. 12. For the education of teachers there shall be at least two state training schools. The education of elementary school teachers shall be promoted by the government as much as possible.

ART. 13. From every decision of the state deputies an appeal can be made to the King.

ART. 14. The provisions of this law concerning male teachers are likewise applicable to female teachers, so far as it contains no exceptions concerning the latter.

ART. 15. This law is not applicable to military instructors.

ART. 16. In every commune elementary instruction shall be given in a certain number of schools, sufficient for the number and requirements of the population, and the school shall be open to all children without distinction of religious creed.

ART. 17. The communal council shall fix the number of schools. Its resolution shall be communicated to the deputies of the state. If the latter deem the number insufficient they shall order an augmentation.

ART. 18. If the number of pupils in one school exceeds seventy, the head master shall be assisted by one pupil teacher; if the number exceeds one hundred, an assistant teacher shall be appointed.

ART. 19. A yearly salary shall be assigned to every head master, and he shall have,

besides, a free dwelling and a garden. If no dwelling can be procured he shall receive a fair allowance for house rent. The salaries of the assistants and pupil teachers shall be fixed by the communal council.

The amount of the yearly salary of a head master shall be at least 400 florins;* for an assistant teacher, at least 200 florins; and for each pupil teacher, at least 25 florins.

ART. 20. In those communes where, on account of their large and scattered population, several schools shall be required, a head master or an assistant teacher may be placed at the head of those schools as principal.

ART. 21. In order to be qualified for the appointment of head master or assistant teacher the candidate is required to possess a certificate of capacity, and testimonials of good moral character.

ART. 22. Head masters shall be appointed by the communal council from a list containing not less than three nor more than six names, made up by the burgomaster and assessors in concert with the district school inspectors, after a competitive examination conducted by the latter in presence of the officers of the local, civil, and school government. Assistant teachers shall be appointed by the communal council from a list containing three names, made up by the burgomaster and assessors in concert with the head master and the district school inspector.

Teachers may be suspended or dismissed for cause by the authorities that appointed them.

ART. 23. The system of education shall be made conducive to the development of the intellectual capacities of the children and to their training in all Christian and social virtues. The teacher shall not teach anything inconsistent with the respect due to the religious opinions of others. Religious instruction is left to the several religious denominations. The school rooms shall be at their disposal for that purpose out of the regular school hours.

ART. 24. The teachers are not allowed to hold any other office or situation without the permission of the local and state authorities. They are not allowed to carry on any business, to work at any trade, or to exercise any profession; this provision also applies to the members of the families of head masters and assistant teachers as far as relates to carrying on the prohibited occupations in their dwellings.

ART. 25. The head masters and assistant teachers shall be entitled to a pension from the government in the following cases:

ART. 26. The right to a pension is acquired after an honorable discharge at the age of sixty-five, and after forty years' service. A pension may also be granted to those who after ten years' service have become invalid. Those who have not received an honorable discharge forfeit their right to a pension.

ART. 27. The pension shall amount for each year's service to one-sixtieth part of the annual salary.

ART. 28. As a contribution to the pension fund, head masters and assistant teachers shall pay 2 per cent. per annum of their yearly salary.

ART. 29. The communes in which teachers are pensioned, by virtue of this law, shall refund to the government one third of the amount of such pensions.

ART. 30 confirms several legal provisions of former years.

ART. 31. Each commune shall provide for the expenses of its elementary institutions of learning.

ART. 32 defines the expenses referred to in the foregoing article.

ART. 33. School fees may be required from every child attending school. Children supported by public charity and those who are unable to pay for their schooling shall not be called upon for this payment.

ART. 34. The collection of school fees shall be regulated in conformity with the law of 1851.

ART. 35. The school fees shall be the same for all the children of the same class.

ART. 36. Poor communes shall receive state aid, the amount of which is to be fixed by the government.

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*1 florin = 38½ cents gold.

ART. 37. For conducting education in private houses the following qualifications are required: *a*, a certificate of capacity; *b*, testimonials of good moral character.

ART. 38. Applications for permission to teach in private houses must be made to the burgomaster of the commune where it is desired to establish a private school.

ART. 39. Teachers who in conducting education in private schools or in private houses shall propagate doctrines inconsistent with morality or tending to excite disobedience to the law of the country shall lose their licenses to give instruction.

ART. 40. Certificates of capacity for giving instruction in schools and private houses are obtained by regular examinations.

ART. 41. Examinations shall be held twice a year in each province by a committee composed of the provincial inspector and four district inspectors. The examinations shall be held in public, except those of the female teachers.

ART. 42. The time when the examinations are to take place shall be made known to the public through the press. Any person desiring to present himself for examination shall apply in due time to the school inspector of the district in which he resides. He must produce testimonials of moral conduct and his certificate of birth.

ART. 43. In order to be admitted for examination, the candidate must be eighteen years of age; the applicant for a head mastership must be at least twenty-three years of age.

ART. 44. Candidates for examination for the purpose of obtaining a certificate of capacity as assistant teachers, of either sex, must prove that they have received a thorough training in the common school branches, and besides in natural philosophy, in vocal and instrumental music, and in the science of education.

ART. 45. Candidates for certificates of capacity as head mistresses must at least possess the same amount of knowledge which is required of assistant male teachers, and also the necessary skill to teach needle work.

ART. 46. Candidates for certificates of capacity as head masters are required to possess attainments of the same description as those required of assistant teachers, but their knowledge must be more comprehensive and developed.

ART. 47. Candidates who fail to pass in all the branches prescribed may apply for another examination.

ART. 48. The examinations of private teachers embrace the same branches as those prescribed for public teachers.

ART. 49. Candidates who have passed a satisfactory examination shall receive a certificate of capacity, in which the branches are named in which they have successfully passed.

ART. 50. Certificates of capacity shall be delivered, on payment of ten florins, to head masters and mistresses, and five florins to assistant teachers of either sex.

ART. 51. Certificates of capacity shall be valid for the whole kingdom.

ART. 52. The superintendence of education, subject to the supervision of the minister of the interior, is conferred upon local school boards, district school inspectors, and provincial inspectors.

ART. 53. There shall be a local school board in every commune.

ART. 54. In communes of less than 3,000 inhabitants the duties of the local school board are performed by the burgomaster and the assessors. In other communes a separate board shall be appointed by the communal council. The office of member of the school board may be held with that of member of the communal council.

ART. 55. Every province shall be divided into school districts, and every district shall be placed under the control of a district school inspector.

ART. 56. The district school inspectors shall be appointed by the minister of the interior for the period of six years. On the expiration of their term of service they may be reappointed. They may be dismissed at any time by the minister of the interior.

ART. 57. The district school inspectors shall receive a fixed salary from the government and a compensation for travelling expenses.

ART. 58. There shall be a provincial inspector in each province, appointed by the King, who may dismiss them at any time.

ART. 59. The provincial school inspectors shall be summoned to meet once a year by the minister of the interior for the purpose of deliberating upon the general interests of elementary instruction.

ART. 60. The provincial inspectors shall hold no other office without the sanction of the King.

ART. 61. The members of the local school board and the district and provincial school inspectors shall be sworn in before entering upon their duties or they shall promise upon their honor to discharge the duties of their office faithfully.

ART. 62. The local school boards and the district and provincial school inspectors have to see that the laws concerning elementary instruction are observed.

ART. 63. All elementary schools shall be open at all times to the members of the local school board and to district and provincial inspectors.

The teachers are bound to give them any information that may be asked for with regard to their schools.

ART. 64. The local school board shall carefully inspect all elementary schools under their control. They shall visit them at least twice a year; they shall see that the regulations concerning these schools are strictly observed; and they shall present annually to the communal council a report on the condition of the schools.

ART. 65. The district school inspectors shall be well acquainted with the condition of the elementary schools under their control. They shall visit, at least twice a year, all the schools of their district. They shall correspond with the local school boards and with the communal councils; they shall lay before them such suggestions as they may deem necessary for the improvement of elementary schools. They shall communicate to the provincial inspector everything which appears to them of any importance; and they shall furnish him such information as he may require. They shall send annually to the provincial inspector a report on the condition of education in their district.

ART. 66. The district school inspectors shall have access to the meetings of all the school boards in their districts and shall have a consulting voice in such meetings.

ART. 67. The provincial school inspectors shall do all in their power to promote education. They shall prepare, from the annual returns of the district school inspectors, a complete report on education in their respective provinces, and submit the same, with their own observations, to the minister of the interior before the 1st of July in each year.

Secondary instruction (styled middle class instruction in Holland) is regulated by the law of May 2, 1863. The law includes among the secondary schools the higher burgher schools, (corresponding to the German Realschulen,) the burgher schools, and the polytechnic school at Delft. The Gymnasia and Latin schools are classed with the superior institutions of learning.

Superior instruction is regulated by the law of 1815. According to this law, superior institutions of learning are the Latin schools, the Gymnasia, the athenæums, and the high schools, (universities.)

OUTLINE OF THE CONDITION OF EDUCATION — PRIMARY.

Education is not compulsory in the Kingdom of the Netherlands, as it is in several other European countries; but the higher school authorities have so excited the zeal of the district and communal boards and have been so well seconded in their efforts by the clergy, that the necessity for compulsory regulations has not been felt. There is, however, a law ordaining that parents shall be excluded from public charity unless they send their children to school. The excellence of the Dutch school-houses and

the great ability of the teachers have also largely contributed to the present admirable condition of the popular schools. By early providing for primary education, Holland has wonderfully improved the social condition of her people. There is scarcely a child ten years of age of sound intellect who cannot read and write. Almost every one receives instruction during some period and the majority of the children attend school regularly. In 1848 Holland had 3,405 public and private elementary schools, with 5,772 teachers and assistants; in 1857 there were 3,422 schools and 7,392 teachers.

There has not been a very large increase in the number of schools, but since 1857 those in existence have been much improved, and there has been an increase of 1,620 in the number of teachers up to the latest report.

The number of pupils in public and private elementary schools in 1848 was 385,186, viz, 209,016 boys, 170,329 girls, and 5,841 pupils whose sex is not reported. In 1857 this number had increased to 406,329, viz, 228,353 boys and 177,976 girls. In the latter year, 85 per cent. of all the children of school age attended the public or private elementary schools; 146,062 pupils received instruction gratis.

The following are the statistics of primary education from 1858 to 1873, inclusive: In 1858 the total number of public and private schools was 3,473; in 1873 it was 3,790. The number of teachers increased from 8,021 in 1858 to 11,465 in 1873; total increase, 3,444. Concerning the number of pupils during the years 1858–1861, no correct statements have been published. In 1862 the number of pupils was 410,359, viz: 224,072 boys and 186,287 girls: in 1873 it had increased to 500,059, viz: 265,815 boys and 234,244 girls. The increase in the number of pupils during the period of twelve years is thus 89,700. Of these, 33,466 belonged to the public and 56,234 to private schools. The number of pupils who received gratuitous instruction in 1862 was 208,983; in 1873 it was 255,097.

A large number of evening schools for children and adults and review schools for adults have been established since 1858. In 1873 the total number of pupils attending these schools was 35,391, viz: 23,736 males and 11,655 females.

The condition of primary schools in 1875 is reported as follows: The total number of public and private schools was 3,817, with 11,975 teachers. The number of pupils in the same year was 509,066, viz: 284,133 boys and 248,933 girls. The evening and review schools were frequented by 48,500 pupils, viz: 26,689 males and 21,811 females.

The total expenditure for primary education was, in 1875, 7,127,001 florins. Of this amount 698,465 florins were supplied by the government, and the rest by the provinces and the communes.

The minimum teacher's salary was 200 florins and the maximum 3,000 florins. Thirty-six teachers received pensions in 1875, the minimum being 100 florins and the maximum 1,134 florins. The total sum for pensions in 1875 amounted to 163,118 florins.

Teachers' seminaries, (normal schools.)—In 1875 the Netherlands had 3 state teachers' seminaries, with 295 students, 33 of whom were females. The expenditure for the seminaries was in the same year 126,605 florins.

Infant schools.—The number of public and private infant schools in 1875 was 705 and the number of teachers 2,222, viz: 39 males and 2,183 females. The number of pupils in the same year was 73,018, viz: 38,852 boys and 34,166 girls.

SECONDARY EDUCATION.

The secondary institutions of learning are, according to the law of May 2, 1863, the burgher schools, the higher burgher schools, the agricultural schools, and the polytechnic school at Delft.

The burgher schools, chiefly designed for the children of tradesmen, mechanics, and agriculturists, are divided into day and evening schools. The course of study of the day schools extends through two years and embraces the following branches: Mathematics, physics, chemistry, natural history, technology, agriculture, geography, history, the Dutch language, political economy, drawing, and gymnastics.

The higher burgher schools are divided into schools with a five years' course and schools with a three years' course. The course of study embraces, besides the branches taught in the burgher schools, the French, English, and German languages, book-keeping and commercial science, and history.

The course of study of the agricultural schools embraces all the branches relating to scientific and practical agriculture.

The polytechnic school is intended to train manufacturers, civil engineers, and architects. Its course of study is of five years and embraces the following branches: Algebra, trigonometry, geometry, land surveying, mensuration, mechanics, physics, chemistry, mineralogy, geology, metallurgy, hydraulic engineering, construction of roads, railways, and bridges, shipbuilding, linear and free hand drawing, model making, political economy, commercial and administrative law, mining, and manufactures.

According to the official report for 1875–'76, the total number of burgher schools was 35 and the number of pupils 3,992; the number of higher burgher schools was 51, with 3,812 pupils. The number of pupils of the two agricultural schools was, in 1875, 28. The polytechnic school had 263 students.

The total expenditure of the state and of the communes for secondary education amounted to 1,691,518 florins in 1875. Of this amount 790,796 florins were contributed by the state.

HIGHER EDUCATION.

The higher institutions of learning consist of the Universities of Leyden, Utrecht, and Groningen, the athenæums of Amsterdam and Deventer, and the so called Latin schools, the number of which is 51.

The total number of students of the universities was in 1875–'76 1,684, viz: 980 in Leyden, 527 in Utrecht, and 177 in Groningen. The athenæum of Amsterdam had, in 1875–'76, 381 students. The athenæum of Deventer has been closed for several years, but will soon be reopened. The total number of pupils of the 51 Latin schools was 1,260.

The state grant for higher education in 1875–'76 amounted to 829,219 florins.

Higher schools for girls.—The number of higher schools for girls has increased from 4 in 1874 to 9 in 1875. The total number of pupils was in the latter year 691. The course of study is of three years and embraces the following branches: Dutch language and literature, French, German, English, history, geography, arithmetic, book keeping, natural history, chemistry, drawing, needle work, gymnastics, singing, and music.

SPECIAL EDUCATION.

Drawing schools.—The number of public drawing schools was in 1875–'76 39, with 168 teachers and 3,904 pupils.

Navigation schools.—There are in the Netherlands 11 navigation schools, with 25 professors and 541 students.

Schools for the blind.—The two institutions for the blind at Amsterdam had 120 inmates, viz: 74 males and 46 females.

School for deaf mutes.—The deaf mute school at Groningen had in 1875 131 inmates, viz: 69 males and 62 females.

Veterinary school.—The veterinary school had, in 1875, 49 students. The government grant for this institution amounted to 138,144 florins in 1875–'76.

EDUCATION IN DENMARK:

ITS HISTORY AND PRESENT CONDITION.

EDUCATION IN DENMARK.*

GENERAL REMARKS.

Denmark is a constitutional monarchy, the present constitution being embodied in the charter of June 5, 1849, which was modified in some important respects in 1855 and in 1863, but was again restored, with various alterations, by a statute which obtained the royal sanction July 28, 1866. According to this charter, the executive power is vested in the King and his responsible ministers and the right of making and amending laws in the Rigsdag, or Diet, acting in conjunction with the sovereign.

The King must be a member of the Evangelical Lutheran Church, which is declared to be the state church. The Rigsdag comprises the Landsthing, or Upper House, and the Folkething, or House of Commons. The Landsthing consists of 66 members. Of these, 12 are appointed for life by the Crown, from among actual or former members of the Folkething, and the rest are selected indirectly by the people for the term of eight years. The choice of the latter 54 members of the Landsthing is given to electoral bodies composed partly of the largest tax-payers in the country districts, partly of deputies of the largest tax-payers in the cities, and partly of deputies from the totality of citizens possessing the franchise. Every citizen who has passed his twenty-fifth year is eligible to the Landsthing. The Folkething, or House of Commons, consists of 102 members, returned in direct election, by manhood suffrage, for the term of three years. The franchise belongs to every male citizen who has reached his thirtieth year, who is not in actual receipt of public charity, (or who, if he has at any former time been in receipt of it, has repaid the sums so received,) who is not in private service without having his own household, and who has resided at least one year in the electoral district on the lists of which his name is inscribed. All men of good reputation, past the age of twenty-five, are eligible to the Folkething. Both the members of the Landsthing and of the Folkething receive payment for their services and at the same rate.

The ministers have free access to both of the legislative assemblies, but can vote only in the chamber of which they are members. They

* This summary has been compiled from the following publications: Hippeau's L'instruction publique dans les États du Nord; Kongelig Dansk Hof og Statscalender, 1876; Seyffarth's Chronik des Volksschulwesens, 1875 und 1876; Schmid's Encyclopädie des Erziehungs- und Unterrichtswesen, 10. Band.

are appointed by the King, are individually and collectively responsible for their acts, and in case of impeachment and being found guilty cannot be pardoned without the consent of the Folkething.

The area of Denmark (excluding dependencies) is 14,553 square miles. The population of the kingdom proper was estimated to be in 1876 1,903,000, about 99 per cent. of whom belong to the established Lutheran Church, which was introduced as early as 1537, under Christian III. Complete religious toleration is extended to every sect. It is enacted by article 76 of the constitution that "all citizens may worship God according to their own fashion, provided they do not offend morality or public order;" by article 77 no man is bound to contribute to the support of a form of worship which he does not approve; and by article 79 no man can be deprived of his civil and political rights on the ground of religion, nor be exempted on this account from the performance of his duties as a citizen.

Agriculture and fishing are the principal occupations of the Danish people, whose good social condition is generally admired.

HISTORY OF PUBLIC INSTRUCTION.

Denmark has long been noted for the excellence of her schools. As early as the year 965 we find schools connected with the different cathedrals and convents. Later, in the twelfth century, existed Latin schools, so called, in almost all the larger towns. These schools were greatly improved by the Reformers, about 1538. In addition to the then existing grades, they established lower grades for the children from the country. They also organized the so called writing schools for poor boys and girls, and placed them under the control of the municipal authorities. The catechism was taught all over the country, either in large residences, where a number of children met, or in schools. Trained teachers were not very numerous in those times, and therefore the pupils of the highest classes, the sextons of the various churches, and the students of theology were expected to devote a great deal of their time to the instruction of children. The perfection and extension of the system of popular instruction date from the beginning of the eighteenth century, when Bishop Thestrup, of Aalberg, caused 6 parish schools to be established in Copenhagen and when King Frederick IV (1699–1730) had 240 school-houses built, each consisting of a school room and a dwelling for the teacher. By royal decree of 1721, these schools were regulated and the salaries of the teachers definitely fixed. Religious instruction and reading were made obligatory, while writing and arithmetic remained optional studies. Children were required to attend school from their fifth to their eighth year every day for five or six hours, and after this period only half a day. Many noblemen and landed proprietors soon followed the royal example and established similar schools for the children of their tenants.

The general supervision of the schools was left to the clergy. Hith-

erto the system of public instruction had not been general. Christian VI, (1730–1746,) seeing this deficiency, ordained in 1739 the establishment of common or parish schools in every town and in every larger village. The branches of instruction were to be religion, reading, writing, and arithmetic. No one was to be allowed to teach unless he had shown himself qualified to the satisfaction of the clergyman of the parish. These schools were to be supported by a revenue fund, collections, fines, and a school tax. A large number of the so-called Latin schools in smaller towns were abolished and their funds appropriated for the common schools. Many difficulties, however, (especially the objections of the landed proprietors, who had their own schools on their estates,) hindered the free development of the common school system, and it was not until 1814 that a new and more favorable era was inaugurated by the law of July 29 of that year. According to this law the general control of the schools is in the hands of a minister of public instruction and subordinate superintendents for the several departments of the kingdom.

Each parish is obliged to furnish good primary school buildings, with teachers for the instruction of children in reading, writing, and arithmetic, the Lutheran catechism, grammar, history, and geography. Attendance is made compulsory for all children between the ages of seven and fourteen. In addition to the teachers' seminary (normal school) of Joenstrup, founded in 1791, 4 new seminaries had to be erected, at Skaarup, Lyngbye, Jelling, and Ranum.

Instruction in gymnastics was introduced into all the schools in 1828. Evening schools for adults were established in every town and higher burgher schools in the larger towns in 1838.

The following is a summary of the laws and decrees of 1814, 1844, 1855, 1856, and 1857, in accordance with which the present school system is governed:

(1) Attendance upon school on the part of the children is absolutely obligatory. Parents and guardians are compelled to send their children and wards to school, either public or private; that is, they are to see that the children receive instruction of the same quantity and quality prescribed in the public schools.

(2) The children are required to attend school from the age of seven to fourteen; when, after having passed the prescribed examination, they are confirmed. No person can be employed, apprenticed, or married who has not been confirmed as a member of some church, and none can be confirmed unless able to read and write the mother tongue.

(3) Whosoever does not comply with the compulsory provisions of the school law is fined, and in special cases the children may be taken from the parents or guardians and intrusted to appointed persons, who will see that they receive the required instruction.

(4) The public schools are divided into two classes, viz, primary or elementary and secondary or intermediate. In the schools of the city of

Copenhagen no class is allowed to have more than from 30 to 40 pupils. In the country districts no pupil is to be obliged to go to school at a greater distance than one-fourth of a Danish mile, (1 English mile.)

(5) No teacher is to have more than 100 pupils. Whenever there are more than 100 children of school age in one commune, either a second teacher must be employed or a new school established.

(6) Tuition in the public schools is free.

(7) The school room must be at least 12 feet high and of proportionate length and width and well ventilated.

(8) The minimum time of giving instruction is 246 days per annum, and 6 hours a day for each teacher and 3 hours a day for each pupil's recitation.

(9) In the primary schools, spelling, reading, writing, arithmetic, and religion constitute the prescribed branches of study. In the towns, vocal music, geometry, history, and gymnastics are added to the above named branches.

(10) In the intermediate schools, besides the above branches, grammar, physics, mathematics, and two modern languages have to be taught.

(11) Those primary schools that have but one teacher must be divided into two classes, the first of which is to contain the pupils under ten years of age and the second those over ten. Primary schools having two teachers are to be divided into three and four classes.

(12) The text books to be used must first be approved by the bishop and clergy of the district.

(13) No teacher may be employed in any public school before he has attended the prescribed course in the teachers' seminaries or else qualified himself before the school authorities. The course of study in the seminaries is calculated for three years, and no one is allowed to pass his final examination before he has reached his twentieth year. Female teachers must be twenty-four years of age before they can be employed in school.

(14) In city schools, the King, through the minister of public instruction, appoints the head masters or superintendents, and they can be dismissed only by him. All other teachers are appointed by the local school boards, consisting of the bishop and clergy of the diocese and the sheriff of the district. To these boards the teachers are primarily responsible for good behavior and efficiency. But these boards are, in turn, subordinated to a special board of school inspectors, appointed by the minister of public instruction, to whom they make their annual reports.

(15) The salaries of teachers in the schools of Copenhagen are from 1,200 crowns* to 2,200 crowns. In the country the minimum salary is 800 crowns and the maximum 1,400, not including the usual allowances, such as dwelling, fuel, and a piece of ground, or a garden. At the close of each period of five years of service the teachers are entitled to a small increase of salary, ranging from 50 to 100 crowns per annum.

* 1 crown = 26.8 cents gold.

(16) With the special permission of the school board, teachers may be placed on the pension list after ten years of faithful service. After twenty years of service teachers may retire on a pension of one-half of their salaries and after twenty-nine years of service on a pension of two-thirds of their salaries.

(17) The widows and orphans of deceased teachers are entitled to a pension amounting to about one-eighth of the salaries of their husbands or fathers at the time of death.

(18) The ordinary expenses connected with the support of the primary schools are paid by the cities, towns, or districts in which they are located, but the additions to the teachers' salaries and the pensions are paid from a special school fund, of which each governmental district possesses one.

(19) The secondary or intermediate schools receive a subsidy from the state.

(20) The special school funds are raised partly by local taxation and partly by subsidies from the state.

(21) Children attending private schools are annually required to pass an examination before a school board in the studies prescribed for the public schools for the year preceding the examination.

PRESENT CONDITION OF THE SCHOOLS.

Primary schools.—The country is divided into 2,399 school districts. Each of these districts has at least one school, with one teacher. As soon as the number of pupils of school age in a district is more than 100, an assistant teacher must be employed.

Although the law prescribes that every child shall attend the common school from the age of seven to fourteen, a child may be dismissed upon the wish of its parents or guardians, if, in the opinion of the school authorities, it has received a sufficient amount of elementary education.

The school hours in summer are from 8 to 11 in the morning and from 1 to 4 in the afternoon, and in winter from 9 to 12 in the morning and from 1 to 4 in the afternoon.

Corporal punishment is only allowed in cases of disrespect or disobedience; laziness or truancy must be reported to the head master.

Each teacher prepares his own course of study and submits it to the approval of his local superiors. A general model course for the whole country does not exist. The method of teaching is left to the teacher, who also, conjointly with the school board selects the text books.

Almost every town has, besides the elementary schools, at least one higher primary school, or burgher school, in which a small tuition fee is charged.

The number of primary country schools is 2,781; the number of male teachers, 2,929; the number of female teachers, 59; the number of children of school age, 200,761; the number of children attending public schools, 194,198, and the number of children attending private

schools, 13,994, making the total number of children under instruction 208,192.

The number of primary schools in cities is 113, with 422 male and 54 female teachers, and 23,353 pupils, 6,161 of whom attend the Real-schulen.

Teachers' seminaries.—The five teachers' seminaries are situated at Joenstrup, Skaarup, Lyngbye, Ranum, and Jelling. The total number of students is 233, viz: 51 in Joenstrup, 75 in Skaarup, 31 in Lyngbye, 31 in Ranum, and 45 in Jelling. Every seminary has three classes, the course of each class comprising one year. No student is admitted under 17 years of age. The following is the course of studies for the three classes: Religion, Danish language and literature, arithmetic, mathematics, penmanship, history, geography, natural history, lessons on education and instruction, music, drawing, gymnastics, catechism.

Farmers' high schools.—The first school of this kind was founded by Professor Flor in the village of Rödding, in Northern Schleswig, (now belonging to Prussia,) in the year 1844. The benefits of this institution were soon felt, and similar schools were soon established in all parts of the country. In 1874 their number was, in Denmark proper, 49, with 2,132 male and 1,003 female pupils. They were at first entirely supported by voluntary contributions and the school fees of the pupils, the latter amounting to 50 Danish rix-dalers* per term. But of late the government, recognizing the great importance of these schools, has granted an annual appropriation of 14,000 rix-dalers (about $7,000) for their better support. These schools are intended for adults of the rural districts, the age of the students ranging between eighteen and thirty-five years. They are well attended and exercise a most beneficial influence.

The course of instruction embraces the following subjects: General and Danish literature; general and Danish history and geography; chemistry; natural philosophy, zoölogy, and botany, as applied to agriculture; orthography; arithmetic; free hand drawing; levelling; surveying; singing; and gymnastics. No text book is used, but everything being treated in lectures. Pupils are never examined and no lessons are recited; but it entirely depends on the student himself how much and what he learns. A well selected library always exists in connection with these schools. The course of instruction lasts six months, and it is of frequent occurrence that pupils go through the course twice, and even three times. The spirit pervading these schools aims at a development of sound practical thought, and endeavors to cultivate a wholesome enthusiasm for all the higher interests of mankind and to awaken an independent national spirit.

Instruction in these schools commences at 8 o'clock in the morning and is opened with singing and prayer. The first hour of the morning is devoted to the reading of Danish authors; during the second hour

* One rix-daler = about 55 cents.

history is treated; at 10 o'clock there is an intermission of half an hour; after this there follow writing exercises: likewise essays, written, from time to time, on given themes; at 12 o'clock, dinner; at 2 o'clock, instruction is resumed and lasts, with an intermission from 5 to 6, till supper at 7 o'clock.

School for girls.—Quite recently a similar course of three months has been established for grown up girls of the lower classes, who are instructed in housekeeping, needle work, floriculture, and horticulture.

Secondary schools.—Secondary instruction in Denmark was formerly represented by Gymnasia, with a classical course, and Realschulen more practical than otherwise. After long discussions in the Folkething the so called bifurcation (already practised for some years in German institutions of this kind) was introduced, so that these institutions have two divisions each, viz, one of languages and history and one of mathematics and natural sciences. The subjects of instruction are very much the same as those of the German gymnasium, only that a very full course of Danish and old Norse literature is given and that more time is devoted to English and French.

The total number of secondary schools is 26, 15 of which are Gymnasia. 5 burgher schools, and 6 private schools. The number of teachers is 163 in the Gymnasia, 6 in the burgher schools, and 145 in the private schools, making a total of 314.

The total number of pupils in secondary schools is 3,476, viz: 1,629 in the Gymnasia, 410 in the burgher schools, and 1,437 in the private schools.

The oldest and wealthiest secondary schools of the kingdom are those of Soröe and Herlufsholm. The former was founded in 1580. In 1749 it was changed into the Knights' Academy. Afterward a classical school was added; and in 1849 the academy was discontinued, and only the classical school remained, which, in 1870, had 160 students. The school of Herlufsholm was founded in 1565, and in 1870 had 95 students.

All the secondary schools are well managed, and thus secure good results.

Superior instruction.—Superior instruction is represented by the University of Copenhagen, founded in 1478–'79. This institution is liberally sustained and patronized, its income amounting to about $75,000. The university has four faculties: theology, law, medicine, and philosophy. The number of professors is about 60 and the number of students 1,250, The library, (containing about 275,000 volumes,) laboratory, botanical garden, museum of natural history, and astronomical observatory, all of which are connected with the university, are in an excellent condition.

Special instruction.—For special instruction, Denmark has a royal veterinary and agricultural school, with 16 professors and about 200 students; a polytechnic school, with 13 professors and about 150 students; two academies of fine arts, a technical school, eight navigation

schools, a military academy, a large number of Sunday improvement or review schools, and the institutions usual for the unfortunate.

Libraries.—Libraries are now generally connected with public schools for the use of teachers and pupils. Popular libraries are found in almost every town and village. The capital, Copenhagen, with a population of 230,000 in 1876, has two large libraries open to the public: the university library, already mentioned, and the royal library, with more than 500,000 volumes and 20,000 manuscripts.

PUBLIC SCHOOLS OF WÜRTEMBERG.

BY

REV. J. L. CORNING, D.D.

WÜRTEMBERG.

INTRODUCTION.

Würtemberg has long enjoyed the reputation of having a system and standard of culture surpassed by those of no other part of the German nation, Prussia itself not excepted. The fundamental necessity of public education to social order and political security is recognized everywhere and among all classes. The primary feature of governmental administration in this relation is that education is not optional but obligatory. Every child in the kingdom, except the impotent and imbecile, is obliged by public statute to attend school between the ages of 7 and 14; and this law is rigidly and universally enforced. I believe this is a rule which prevails throughout the whole German Empire, and its advantages are everywhere obvious, not only here but in America as well, whither so many thousands of Germans annually emigrate. They are thus prepared by home culture for the privileges of intelligent freemen.

To attempt a classification of the various departments of public education in Würtemberg would occupy more space than can be allotted to a report like this. Suffice it to say that every essential element of popular culture receives careful attention. Beginning at the university, we can trace the gradation of culture in existing institutions through every step of literature, science, and art to the purest utilitarianism, embodied, for example, in agricultural schools and veterinary colleges.

UNIVERSITY OF TÜBINGEN.

Tübingen is the university town of Würtemberg and it has for a generation had a wide repute in America for the learning and, I may add, the heterodoxy of its theologians. In the department of theology Tübingen has not now so great a fame as it had during the life of Dr. Baur, whose works are known to every well read theologian in the civilized world. But there is no department of literature or science in which the University of Tübingen will not compare favorably with any other similar institution in the German Empire. Its annual register for 1874–'75 reports an attendance of 827 students. One characteristic feature of this ancient seat of learning I must not omit to mention. I mean that of religious toleration.

Here, under governmental protection and support, are two theological faculties of the Protestant and Roman Catholic faiths, each having its own students, and all, teachers and taught, living in friendly accord. In several visits which I have made to Tübingen University I have in-

quired in vain for any instance of strife between these opposing elements of religious thought, and I have been sometimes tempted to dream that the millennial morning will shed its first beams on this quiet Swabian town, which has nothing to distinguish it from a commonplace settlement save the vast erudition which it contains and the rare example of Christian fraternity which it exhibits.

GYMNASIUM AND REALGYMNASIUM.

The proper school of preparation for the university is the Gymnasium, which, in its general features, may be likened to an American college, the ancient classics being a prominent element in the curriculum.

Approaching by gradation toward the schools for practical scientific culture, the next step below the Gymnasium is the Realgymnasium, in which classic and scientific education are combined, Latin being taught nearly up to the standard of American colleges; Greek, however, being wholly omitted and, instead of this, mathematics being pursued to a very high grade; so that the student at his graduation can elect between a university and a polytechnic school for the further prosecution of his studies.

REALSCHULE.

Next below the Realgymnasium is what is called the Realschule, in which the ancient languages are wholly omitted and mathematics, the natural sciences, French, and English are thoroughly taught, with a view to the requisitions of practical life. The Realschule may be called the bud, of which the polytechnic school is the blossom.

POLYTECHNIC SCHOOL, STUTTGART.

The polytechnic school is a genuine university of applied science; and Europe does not, probably, possess a polytechnic school of higher grade than the one which is located in Stuttgart. Here architecture and civil and mechanical engineering are taught by professors whose ability is surpassed, probably, by that of no living men in their several departments. It should be added that the Stuttgart polytechnic school is not wholly a utilitarian institution; for the department of belles lettres is furnished with teachers of deep erudition and wide fame. I would make special mention of Professors Lübke and Fischer, whose lectures in the polytechnic in art history and literature are not only open to, but are also largely patronized by ladies. Of Prof. Wilhelm von Lübke, who occupies the chair of art history in the Stuttgart polytechnic, I need not speak, as his learned works, translated into almost every language in which modern culture is represented, have made his name known among the educated classes throughout the civilized world.

BAUSCHULE.

Cognate with the polytechnic school, though on the scale of scientific learning a step beneath it, is what is called the Bauschule, (building school,) in which hundreds of mechanics annually qualify themselves, by adding knowledge to manual skill, for the position and increased pay of master builders. This school is one of the most useful institutions in the kingdom; it occupies a building of stately magnificence which is a prominent architectural feature in the capital of Würtemberg, a city renowned for its palaces.

CONSERVATORY OF MUSIC.

A single word must be devoted to the schools of art and music in Stuttgart, both of which have excellent faculties and a large patronage, both home and foreign. Not to dwell on the former of these, I will say that probably no music school now existing in Europe enjoys quite so enviable a reputation as the Stuttgart Conservatory of Music, which at present numbers about 600 pupils from all parts of the world, a large fraction being from America. The high rank which it has obtained is probably, in great measure, due to its founder, Prof. Sigmund Lebert, whose Method for the Piano has a wide circulation in both hemispheres.

Besides the special schools already named I should not omit to mention the Handelschule, (commercial school,) in which are pursued the branches which are especially adapted to the mercantile profession.

VOLKSSCHULE.

Of course it is impossible for all to share in the privileges of higher classic and scientific culture; and, recognizing the popular needs, the government of Würtemberg has made liberal provision for the Volksschule, which is similar in every essential particular to the American common school. And it may be stated in general that the instruction furnished here is at least on a par with that imparted to the corresponding class in any portion of Europe. I must, however, add that nowhere in Europe have I found a system of common school education which seems to me equal in all respects to that which is justly the pride of American civilization.

But it must be added that, with the conservative elements which prevail in most European nations, the need of popular culture does not make itself so deeply felt; whereas with us it is the only trustworthy safeguard against the perils of universal freedom.

PAY OF TEACHERS.

A few items of information concerning the pay of the teaching class in Würtemberg may fitly find place in this communication. It will

be admitted that nowhere are teachers paid according to their deserts; and this observation finds no exception in the little Kingdom of Würtemberg. The salaries of the best teachers of Gymnasia and Realschulen range from a thousand to fifteen hundred dollars. Those of professors in the university and polytechnic school are moderately augmented by endowments and lecture fees. But I cannot find that the most distinguished professor in Würtemberg, whose name is the pride of the whole kingdom, receives for his entire salary, collaterals included, a larger sum than $2,500.

EDUCATION OF WOMEN.

To an American, who contemplates with pride the position which woman occupies educationally in his native country, it is an inquiry full of interest, what is her status in this relation in foreign lands? I need not, therefore, say that in the two interviews which his excellency the minister of public culture politely accorded to me this matter was made a special theme of conversation.

It may be stated as a fact, almost without exception, that the higher intellectual culture of woman is wholly ignored in the educational system of Germany. There is, to be sure, a supplementary clause in one of the larger schools for young women in the city of Stuttgart, a provision, to wit, whereby a student can go forward with study till her sixteenth year, devoting her attention chiefly to the modern languages. But almost never, in this country, does a young woman include an ancient language and the higher mathematics as a part of her intellectual discipline and equipment, and never does she do this in any public school or college. I need not say, with all the confessed excellences of the German educational system, it is, in my judgment, susceptible of great improvement in this respect.

RELIGIOUS INSTRUCTION.

In Würtemberg, as in other European nations, differences of religious belief complicate educational and many other problems. Here, as elsewhere, Protestants, Catholics, Jews, and the people of no religious faith whatever all claim a share in the privileges of intellectual culture. How to conduct public education without a collision of these heterogeneous elements is a question to which the government of this people has evidently addressed itself in sober earnest. And in general it may be stated that, so far as is possible for a government whose head is Protestant, all causes of jealousy and misunderstanding of a theological character have been sedulously avoided. Religion is an optional branch of instruction in all the public schools. The pupils may take it or not, according to the election of their parents or guardians. If they choose, it may be omitted altogether, or if they desire it, they themselves have the privilege of choosing the minister by whom it shall be communicated, whether by a Protestant clergyman, by

a Catholic priest, or a Jewish rabbi. And those three sorts of teachers of religion are often found in a single school, each giving instruction in religion to his separate class of pupils. The Bible, as a text book, is never employed in the public exercises of a school; but at the opening and closing a simple prayer is offered, so general in its phraseology that one could not guess whether the petitioner were a Protestant, a Catholic, or a Jew.

Thus far, as his excellency the minister of culture informed me, this system of liberality in religious matters has worked without serious friction; and it is possible that some hints may be herein contained which shall aid our public authorities at home in unravelling the religious perplexities with which our own public educational system is embarrassed.

In conclusion, I would gratefully acknowledge the polite and courteous attention of his excellency the royal minister of public culture in granting me an audience on two occasions and in placing at my disposal valuable public documents bearing upon the subject in hand.

EDUCATION IN PORTUGAL.

Record office	$7,080
Public libraries	11,730
Official publications	138,830
	798,614

Adding this total to the expenses on account of other ministries, viz:

Practical military school	$31,143
Military college	19,056
Naval school	7,470
Elementary agricultural instruction	3,500
General Agricultural Institute	17,857
The Industrial Institute at Lisbon	14,320
The Industrial Institute at Oporto	10,770
Total	902,730

The amount spent by private persons for education may be estimated at $300,000. This sum, added to the government expenditure, would give for the school year 1875–'76 a total expenditure of $1,200,000.

The institutions for superior and special instruction are the University of Coimbra, the Polytechnic School of Lisbon, the Army School, the Polytechnic School of Oporto, the Schools of Surgery of Lisbon, Oporto, and Funchal, and the higher course of literature.

THE UNIVERSITY OF COIMBRA.

The University of Coimbra was founded at Lisbon in the year 1290, by King Dom Diniz. Besides this monarch, the prior of Santa Cruz deserves special credit for the zeal with which he worked for this institution. In 1307 the university was transferred to Coimbra; seventy years later it was brought back to Lisbon; but in 1537 Dom Joãs III again caused it to be removed to Coimbra, where it has since remained.

Until the year 1772, instruction in the university was confined to theology, law, and medicine. In that year a reform was brought about by the Marquis of Pombal, and the faculties of philosophy and mathematics were established. Later several additional chairs were instituted in the faculty of philosophy and one in political economy.

The following is the course of study in the university:

Theology.—First chair, ecclesiastical history; second chair, dogmatic and polemical theology; third chair, theological symbolism; fourth chair, theological mystics; fifth chair, moral philosophy; sixth chair, liturgical theology; seventh chair, holy scripture; eighth chair, pastoral theology.

Law.—First chair, the philosophy of law and the history of Portuguese constitutional public law; second chair, Roman law; third chair, Portuguese civil law; fourth chair, public law; fifth chair, politi[illegible] statistical economy; sixth chair, civil law; seventh chair, ad[illegible]tive legislation; eighth chair, financial legislation; ninth cl[illegible]

EDUCATION IN PORTUGAL.*

ORGANIZATION.

Public education in Portugal is under the control of a superior council of education, at the head of which is the minister of the interior. This council has to examine all matters relating to public instruction and to submit its decisions to the council of ministers for approval.

Special military schools are under the control of the minister of war and naval schools are under the supervision of the minister of the navy.

Public schools are divided into four classes, viz: superior, secondary, primary, and special.

EXPENDITURE FOR SCHOOLS.

The expenditure for public instruction in 1874–'75 was † $777,611, and for the year 1875–'76 the expenditure was estimated at $798,614, to be distributed as follows:

The council of education	$1,200
The University of Coimbra	87,285
The Polytechnic School at Lisbon	55,247
The Polytechnic School at Oporto	17,874
The School of Surgery at Lisbon	13,573
The School of Surgery at Oporto	12,840
The School of Surgery at Funchal	1,027
The higher course of literature	3,400
Extra salaries	4,000
The Academy of Fine Arts at Lisbon	9,050
The Academy of Fine Arts at Oporto	4,556
Subsidy to students	3,600
Royal Conservatory of Music	6,432
Subsidy to theatres	33,552
Lyceums	67,418
Other secondary schools	13,410
Extra salaries	6,000
Primary normal schools	7,637
Primary instruction	244,764
Other expenses	35,400
Royal Academy of Sciences	12,609

* A translation of Chapter VII, Part III, pp. 225–264, of Sr. Gerardo A. Pery's Geographia e Estatistica Geral de Portugal e Colonias: Lisboa, 1875.

† Throughout this article the dollar mark has been conveniently used as the equivalent of the Portuguese milreis, although the latter really represents a value of $1.08 gold.

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law; tenth chair, ecclesiastical law; eleventh chair, commercial law; twelfth chair, juristical organization; thirteenth chair, ecclesiastical law; fourteenth chair, penal law; fifteenth chair, procedure and practice of courts.

Administrative course.—First chair, inorganic chemistry; second chair, natural law; third chair, political economy; fourth chair, mineralogy and geology; fifth chair, public law; sixth chair, civil law; seventh chair, general agriculture; eighth chair, administrative legislation; ninth chair, penal legislation.

Medicine.—First chair, human anatomy; second chair, general anatomy and physiology; third chair, special physiology and hygiene; fourth chair, anatomy, operative medical science, and pathology; fifth chair, materia medica; sixth chair, external pathology and clinical surgery; seventh chair, pathological anatomy; eighth chair, internal pathology, the knowledge and history of medicine; ninth chair, obstetrics and obstetrical diseases; tenth chair, clinical surgery for women; eleventh chair, clinical surgery for men; twelfth chair, medical law.

Mathematics.—First chair, higher algebra, analytical geometry, spherical trigonometry; second chair, differential and integral calculus, variations, probabilities; third chair, rational mechanics; fourth chair, descriptive geometry; fifth chair, practical astronomy; sixth chair, surveying; seventh chair, astronomy; eighth chair, mathematical physics.

Philosophy.—First chair, inorganic chemistry; second chair, organic chemistry, chemical analysis; third chair, physics, part 1; fourth chair, botany; fifth chair, physics, part 2; sixth chair, zoölogy; seventh chair, mineralogy, geology, and mines; eighth chair, general agriculture, rural economy.

The corps of teachers consists of 52 professors and 15 assistants. The yearly salary of the director of each faculty is $1,200; the salary of each ordinary professor $800, and of an assistant professor and of the professor of drawing, $500 per annum.

The following table shows the number of students in each faculty from 1870 to 1873, inclusive:

Faculties.	1870–'71.					1871–'72.					1872–'73.				
	Matriculated.	Examined.	Approved.	Rejected.	Gained prizes.	Matriculated.	Examined.	Approved.	Rejected.	Gained prizes.	Matriculated.	Examined.	Approved.	Rejected.	Gained prizes.
Theology	39	38	38	....	3	63	45	45	....	4	83	51	51	....	3
Law	343	338	330	8	16	368	353	346	7	15	398	383	378	5	15
Political economy	6	5	5	....	....	1	2	2	....	....	3	3	3	....	....
Medicine	56	55	55	....	7	63	63	62	1	11	81	81	81	....	17
Mathematics	104	76	71	5	15	128	65	60	5	16	129	80	72	8	9
Philosophy	262	237	225	12	20	298	281	265	16	21	265	248	222	26	18
Drawing	103	89	89	....	....	114	84	81	3	...	125	101	98	3	...
Total	913	838	813	25	61	1,035	893	861	32	67	1,084	947	905	42	62

THE POLYTECHNIC SCHOOL OF LISBON.

The course of study of the polytechnic school embraces the higher mathematics, natural history, and political economy. The following is an outline of the subjects of instruction according to the programme of 1872:

First chair, spherical trigonometry, higher algebra, analytical geometry; second chair, calculus, variations, probabilities; third chair, rational mechanics and machinery; fourth chair, astronomy and surveying; (besides these subjects, there is another course in descriptive geometry divided into two parts;) fifth chair, physical and experimental mathematics; sixth chair, inorganic chemistry, chemical analysis, and organic chemistry; seventh chair, mineralogy and geology; eighth chair, comparative anatomy, and physiology, zoölogy; ninth chair, botany; tenth chair, political economy, administrative and commercial law.

The course in drawing extends through four years. The staff of teachers consists of 12 regular professors, 8 assistant professors, and 1 professor of drawing. The regular professors receive a salary of $700, the assistant professors $400, and the professor of drawing $300 per annum.

The present polytechnic school is a substitute for the former college for the education of the nobility, founded by the Marquis of Pombal. The original endowments of the college yield a yearly income of $6,800 to the government.

The following table shows the number of students attending the polytechnic school from 1856 to 1872:

School year.	Matriculated.	Approved.	Rejected.	Not examined.	Gained prizes.
1856-'57	548	173	87	305	7
1857-'58	487	154	41	307	3
1858-'59	489	167	47	280	5
1859-'60	485	161	44	282	10
1860-'61	358	186	45	127	8
1861-'62	387	205	52	130	10
1862-'63	428	249	41	138	9
1863-'64	437	257	46	134	8
1864-'65	394	206	54	134	6
1865-'66	337	198	25	114	3
1866-'67	353	190	35	128	7
1867-'68	449	295	20	134	13
1868-'69	490	324	31	139	16
1869-'70	574	356	38	180	16
1870-'71	531	295	32	204	16
1871-'72	480	303	40	137	14

THE ARMY SCHOOL.

The army school is the only institution in the kingdom where students receive practical training in military science and in civil engineering. The corps of teachers consists of 1 general commandant,

who receives a salary of $1,080 a year, besides his regular pay as army officer; 1 second commandant, at a salary of $1,200; 2 directors of study, at a salary of $1,260 each; 6 military professors, at a salary of $450 each, besides their pay as army officers; 1 second class teacher, at a salary of $720; 4 tutors, 5 instructors, and 1 English teacher, receiving a salary of $360 each, and a drawing teacher.

At present the course of military engineering is of three years' duration. The other courses last two years.

The following table shows the attendance, &c., on the several courses of the school from 1870 to 1875, inclusive:

School year.	Courses.	Ended their courses.	Passed.	Did not pass.	Total number.	Received prizes.	
						Money.	Other distinctions.
1870-'71	Military engineering	4	12	.....	16	3	4
	Artillery	10	14	2	26	.....	.....
	Staff corps	.....	1	.....	1	.....	.....
	Civil engineering	2	1	.....	3	2	1
	Cavalry and infantry	27	57	32	116	2	15
	Day scholars	.....	.....	1	1	.....	.....
	Free students	.....	.....	2	2	.....	.....
					165		
1871-'72	Military engineering	5	13	.....	18	3	1
	Artillery	11	7	7	25	1	1
	Staff corps	1	.....	.....	1	.....	.....
	Civil engineering	1	6	.....	7	1	.....
	Cavalry and infantry	52	48	46	146	2	5
					197		
1872-'73	Military engineering	8	14	1	23	2	7
	Artillery	6	9	7	22	.....	.....
	Staff corps	.....	1	.....	1	.....	.....
	Civil engineering	6	2	.....	8	1	2
	Cavalry and infantry	42	62	51	155	1	6
					209		
1873-'74	Military engineering	5	23	1	29	3	3
	Artillery	10	16	3	29	2	.....
	Staff corps	1	1	.....	2	2	.....
	Civil engineering	2	4	1	7	2	2
	Cavalry and infantry	62	62	69	193	2	4
					260		
1874-'75	Military engineering	.....	.....	.....	32	.....	.....
	Artillery	.....	.....	.....	26	.....	.....
	Staff corps	.....	.....	.....	7	.....	.....
	Civil engineering	.....	.....	.....	6	.....	.....
	Hydrographical engineering	.....	.....	.....	2	.....	.....
	Cavalry and infantry	.....	.....	.....	198	.....	.....
	Free student	.....	.....	.....	1	.....	.....
					272		

NAVAL SCHOOL.

The Academy of the Naval Guard, established in 1796, was reorganized in May, 1845, and is at present known as the Naval School. The corps of teachers consists of 1 commandant, 4 regular professors, 1 pro-

fessor of hydrography, 2 assistant professors, 1 teacher of fencing and swimming, 1 lecturer on practical shipbuilding, and 1 teacher of artillery and infantry tactics.

THE POLYTECHNIC SCHOOL OF OPORTO.

In this school mathematics, natural history, and political economy are taught by 13 professors, but the courses are less extended than in the Polytechnic School of Lisbon. The programme of studies is as follows: First chair, arithmetic, algebra, geometry, &c.; second chair, algebra as applied to geometry; third chair, descriptive geometry; fourth chair, drawing; fifth chair, spherical trigonometry, the principles of astronomy and geodesy; seventh chair, natural history applied to art and to professions; eighth chair, physical and mechanical industries; ninth chair, chemistry and the working of mines; tenth chair, botany, agriculture, rural economy, and veterinary surgery; eleventh chair, commercial and industrial economy; twelfth chair, political economy, commercial and administrative law; thirteenth chair, mechanics. The regular professors receive a salary of $700 each and the assistant professors receive $400 each.

The following table shows the number of students, &c., from 1870 to 1873, inclusive:

School years.	Matriculated.	Approved.	Rejected.	Not examined.
1870–'71	205	190	.....	15
1871–'72	221	196	.....	25
1872–'73	226	208	2	16

THE MEDICO-SURGICAL SCHOOLS OF LISBON AND OPORTO.

Each of these schools has 12 regular professors, at a salary of $700 each; 4 assistant professors, at a salary of $400 each; 1 lecturer in surgery, 1 professor and keeper of the museum of anatomy, and 1 professor of pharmacy, each receiving a salary of $300 a year.

The following is a statement of the number of students, &c., from 1870 to 1873:

School year.	Medico-Surgical School of Lisbon.				Medico-Surgical School of Oporto.			
	Matriculated.	Approved.	Rejected.	Not examined.	Matriculated.	Approved.	Rejected.	Not examined.
1870–'71	130	126	2	2	203	188	2	13
1871–'72	141	130	2	9	219	201	2	16
1872–'73	199	191	2	6	247	235	1	11

The following branches are taught in each of these schools: Anatomy physiology, hygiene, natural history of medicines, external pathology, surgical appliances, operations, midwifery, internal pathology, clinical treatment, clinical medicine, medical jurisprudence, public health, and pathological anatomy.

THE MEDICO-SURGICAL SCHOOL OF FUNCHAL.

This school has 2 professors, receiving a salary of $400 each, one a professor of anatomy and physiology, the other a professor of pathology and materia medica, besides a professor of pharmacy, who receives a compensation of $60 a year.

The following table shows the attendance from 1870 to 1873:

School year.	Matriculated.	Approved.	Rejected.	Not examined.
1870-'71	18	14	1	3
1871-'72	11	10	.....	1
1872-'73	4	4	.....	.....

COURSE OF ADVANCED LITERATURE.

This course has five professorships, in which the following branches are taught: First chair, general history of the kingdom; second chair, Latin and Greek literature; third chair, modern European literature, especially Portuguese; fourth chair, philosophy; fifth chair, philosophical history.

There are 5 professors, receiving a salary of $600 each. King Dom Pedro V founded this course and endowed it with a capital of $30,000.

Statistics of the course of advanced literature from 1870 *to* 1873.

School year.	Matriculated.	Approved.	Rejected.	Not examined.
1870-'71	36	18	5	13
1871-'72	38	10	1	27
1872-'73	32	22	4	6

SECONDARY INSTRUCTION.

For public secondary instruction there are 18 lyceums, viz: 17 at the capitals of the administrative districts and 1 in Lamego. There is besides a lyceum in each of the district capitals of the adjacent islands.

Statistics of secondary schools for the school year 1873–'74.

Lyceums.	Resident pupils.				Non-resident pupils.			
					Males.		Females.	
	Matriculated.	Approved.	Rejected.	Not examined.	Approved.	Rejected.	Approved.	Rejected.
Aveiro	232	27	12	193	88	50	3	.....
Beja	179	15	7	157	3	7	.....	.....
Braga	560	84	37	439	521	209	.....	.....
Bragança	275	24	9	242	3	11	.....	.....
Castello Branco	172	5	12	155	30	11	.....	.....
Coimbra	250	50	24	176	716	323	.....	.....
Evora	167	13	6	148	27	37	1	.....
Faro	387	10	6	371	22	18	.....	.....
Guarda	465	35	30	400	57	28	.....	.....
Leiria	133	6	13	114	8	11	7	.....
Lisbon	676	60	16	600	678	448	21	.....
Portalegre	117	3	6	108	22	29	.....	.....
Porto	551	63	48	440	378	299	.....	.....
Santarem	413	26	12	375	75	57	.....	.....
Vianna	284	15	13	256	55	42	.....	.....
Villa Real	197	5	3	189	40	13	.....	.....
Vizen	629	61	41	527	147	97	.....	.....
Lamego	231	3	.....	228	87	47	.....	.....
Angra	172	20	.....	152	27	12	.....	.....
Horta	180	18	.....	162	.....	.....	.....	.....
Ponta Delgada	153	18	1	134	25	3	.....	.....
Funchal	460	60	8	392	22	3	.....	.....
Total	6,883	621	304	5,958	3,031	1,755	32	.....

The lyceums above named are divided into two classes, viz: first and second. The first class lyceums are situated in the districts of Lisbon, Oporto, Coimbra, Braga, Evora, Santarem, Vizen, and Funchal. The lyceum of Lisbon has 10 professors, receiving a salary of $400 each, and 3 assistant professors, receiving $266 each. The lyceum of Oporto has 10 professors, receiving a salary of $400 each, and 3 assistant professors, at a salary of $200 each. That of Coimbra has 12 professors and 3 assistants, receiving the same salary as the professors at Oporto. Those of Braga, Evora, and Santarem have each 10 professors, receiving a salary of $350 each, and 3 assistant professors, receiving $175 each. The lyceum of Funchal has 7 professors, receiving a salary of $400 each.

The second class lyceums have 5 professors, at a salary of $350 each. The total number of professors in the lyceums is 157.

The following table shows the attendance in secondary schools in continental Portugal and in the adjacent islands from 1871 to 1874, inclusive:

School year.	Continental Portugal.			Adjacent islands.	
	No. of schools.	Matriculated.	Qualified at the end of the year.	No. of schools.	Matriculated.
1871–'72	131	1,502	313	13	87
1872–'73	125	837	253	12	75
1873–'74	113	719	248	10	59

THE ROYAL MILITARY COLLEGE.

In the year 1803, a private college was founded for the education of the sons of military officers stationed at the fortress of Feitoria. The initiative of this foundation was due to Colonel Dom Antonio Teixeira Rebello, who was afterward the first director of the Royal Military College. Some time later this institution received a subsidy from the government at a rate of 24 cents per day for each pupil. From this private institution arose the Royal Military College, which was regularly chartered and organized in 1814.

The object of the college was to be twofold: first, to reward the services of officers of the army and navy by giving gratuitous instruction to their sons; secondly, to furnish the latter with a military education.

According to the original system, which was in force until 1850, a complete course of instruction was provided for officers for the infantry, cavalry, and artillery.

The professorships of fortification and topography having been discontinued, the pupils now complete the infantry course in the army school, and are thereupon promoted to the rank of ensign. The present number of students is 196. The sum of $18,000 is annually appropriated for this college. The staff of teachers consists of 1 director, (who is a general of brigade,) 1 subdirector, 1 adjutant, 1 secretary, 1 quartermaster, 4 staff officers, 1 surgeon, 1 chaplain, and 7 professors.

PRIMARY INSTRUCTION.

There are 2 primary normal schools, one for boys and one for girls. They were created by the decree of December 14, 1869, for the training of teachers for primary schools. The first has 2 professors, one receiving a salary of $400, the other $300 per annum. They direct the primary school attached to the normal school. The second school has 1 head master at a salary of $250 and 3 female teachers at a salary of $200 each. These normal schools accommodate 40 pupils, for each of whom the government gives a subsidy of $6 a month.

In 1862 there were in Portugal 1,336 public schools for boys and 127 for girls. In 1874 there were already 1,987 of the former and 458 of the latter. On the adjacent islands in 1862 there were 93 male and 26 female teachers, and in 1874 these numbers had increased to 127 and 47 respectively. Besides these there were 8 municipal schools for boys and 4 for girls. The total number of public schools in 1874 was 2,631.

In 1874 the number of male and female teachers in the kingdom was 1,987 and 458, respectively, and on the islands it was 127 and 47, respectively. Besides these there were 8 male and 4 female teachers in municipal schools. The total number of teachers was thus 2,631, viz: 2,122 men and 509 women.

The following table shows the number of schools and pupils on the continent and in the adjacent islands from 1869 to 1872:

School year.	Number of schools for—		Number of pupils.		Qualified at the end of the year.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
ON THE CONTINENT OF PORTUGAL.						
1869-'70	1,733	274	88,301	18,108	7,394	1,160
1870-'71	1,777	286	85,904	16,741	6,569	987
1871-'72	1,802	297	87,359	17,809	5,708	1,059
ON THE ADJACENT ISLANDS.						
1869-'70	107	35	5,842	2,686	302	107
1870-'71	108	37	5,093	2,328	256	129
1871-'72	108	37	5,475	2,454	211	139

The following table presents the statistics of examinations of pupils for advancement from the primary schools to the lyceums; also of examinations of candidates for primary teacherships, from 1870 to 1872, both on the continent of Portugal and on the adjacent islands:

Year.	Examined for admission into the lyceums.						Examined for teacherships.			
	Examined.		Approved.		Rejected.		Examined.		Qualified.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Teachers of boys.	Teachers of girls.	Teachers of boys	Teachers of girls.
1870	2,097	113	1,617	102	480	11	324	107	123	64
1871	1,802	118	1,437	89	365	29	488	120	157	60
1872	1,815	103	1,486	91	329	12	341	93	129	63

Statistics of public primary schools, according to districts, for the year 1871-'72.

Names of districts.	Schools now in operation.		Pupils matriculated		Qualified at the end of the year.	
	For boys.	For girls.	Boys.	Girls.	Boys.	Girls.
Aveiro	122	18	6,903	1,252	610	85
Beja	53	11	2,918	743	234	63
Braga	106	11	6,904	865	654	26
Bragança	107	15	3,822	940	115	29
Castello Branco	91	16	3,955	829	131	20
Coimbra	129	19	6,739	767	363	15
Evora	40	9	1,905	615	206	51
Faro	46	4	2,331	307	85	21
Guarda	174	26	7,810	1,458	277	30
Leiria	77	11	2,932	489	61	27
Lisbon	135	46	7,496	3,061	946	362
Portalegre	52	12	996	317	158	95
Porto	131	28	7,536	1,886	751	112
Santarem	92	16	3,661	905	173	36
Vianna	83	5	5,420	523	436	19
Villa Real	142	21	5,704	1,158	292	39
Vizen	222	29	10,327	1,694	216	19
Total for the continent	1,802	297	87,359	17,809	5,708	1,049
Angra	34	6	1,705	379	55	19
Horta	29	13	1,617	998	96	85
Ponta Delgada	21	9	1,198	655	27	25
Funchal	24	9	955	422	33	10
Total for the islands	108	37	5,475	2,454	211	139
Grand total	1,910	334	92,834	20,263	5,919	1,188

SPECIAL INSTRUCTION.

For special instruction there are the following institutions: The Royal Academies of Fine Arts at Lisbon and Oporto and the Royal Conservatory of Music at Lisbon.

The Royal Academy of Fine Arts at Lisbon had its origin in the school of design, established in 1781. The branches of instruction are historical, decorative, and architectural drawing; historical and landscape painting; sculpture; historical engraving; wood engraving, and drawing from life. The institution has 6 professors, receiving a salary of $500 each. The number of pupils in 1873–'74 was 224.

The Academy of Fine Arts at Oporto had its origin in a school of drawing, founded in 1779. It consists of four schools or courses, viz: first, historical drawing; second, historical painting; third, civil architecture; fourth, sculpture, perspective drawing, and anatomy. There are 4 professors, receiving a salary of $500 each.

The government gives a subsidy to four or five artists who desire to study the fine arts in foreign countries.

The Royal Conservatory of Music consists of a school of dramatic art and a school of music. The first one has three professors, viz: one of acting, receiving a salary of $500; one of declamation, at a salary of $300; one of grammar and pronunciation, at a compensation of $100.

In the school of music there are 10 professors, nine of whom receive a salary of $200 each and one a salary of $300.

Statistics of the Royal Conservatory of Music for the years 1871–1874.

Scholastic year.	Male pupils.			Female pupils.		
	Matriculated.	Examined.	Approved.	Matriculated.	Examined.	Approved.
1871–72	167	132	121	213	256	246
1872–'73	139	121	114	197	232	202
1873–'74	120	111	105	157	235	204

INDUSTRIAL AND COMMERCIAL INSTRUCTION.

The Industrial Institute of Lisbon and the Industrial School of Oporto were established in 1852–'53. To the Lisbon Institute was afterward added the school of commerce, founded by the Marquis of Pombal. At first the instruction in the institute was limited to industrial and commercial branches, but it now embraces the following courses: General instruction for artisans, the training of directors for factories and industrial establishments, of foremen and assistant foremen, of conductors for public works, makers of instruments of precision, telegraphic operators, &c.

The following are the statistics of the institute from 1870 to 1873:

Years.	Matriculated.	Approved.	Rejected.	Passed with distinction.
1870–'71	427	107	13	16
1871–'72	576	109	27	7
1872–'73	705	(*)	(*)	(*)

(*) Not given.

The school has 10 professors, at a salary of $700 each, and 1 professor of French and English, at a salary of $500. The administrative staff consists of a director, at a salary of $300; 1 librarian and secretary, at $400; 1 clerk, 1 custos, and 1 keeper of the schools, at a salary of $300 each.

An instrument manufactory is attached to the school. It is under the supervision of a director, who receives a salary of $600 a year. The estimated expenditure for 1875–'76 was $14,320.

The Industrial Institute of Oporto has the same organization, with 9 professors at a salary of $700 each and 1 at $500. The expenditure for 1875–'76 was $10,770.

AGRICULTURAL INSTRUCTION.

By the decree of 1852 instruction in agriculture is divided into elementary and higher. For elementary instruction, district gardens were established in 1852; and in 1869 a decree was issued establishing experimental stations in the districts and elementary courses on agriculture in the lyceums.

For higher instruction in agriculture, there is the general institute of agriculture, established in 1852 and incorporated in 1855, with the school of veterinary surgery. In some districts elementary stations and courses on agriculture are established, which are open to all who desire to acquire a general knowledge of agriculture. Certificates of qualification are not issued.

The general institute of agriculture embraces courses on tillage and veterinary science, and has 10 professors at a salary of $700 each and 1 professor of drawing at a salary of $500. The administrative staff consists of a director, 5 assistant professors, and superintendents of the various divisions.

SCIENTIFIC ESTABLISHMENTS—ROYAL ACADEMY OF SCIENCES.

The Royal Academy of Sciences was founded in 1779, at the suggestion of the Duke of Lafões and the Abbot José Correia da Serra. The academy was originally divided into three classes, viz: natural sciences, mathematical sciences, and literature. Each class was intended to have

8 active members. Afterward the number of supernumerary fellows was fixed at 12, the number of honorary at 12, and that of the corresponding members at 100.

ASTRONOMICAL ESTABLISHMENTS.

Portugal has three astronomical establishments, viz: the Royal Astronomical Observatory of Lisbon, the observatory of the university of Coimbra, and the observatory of the Lisbon Polytechnic School. In 1871 the old marine astronomical observatory, at Lisbon, was annexed to the naval school. Its object was to regulate the chronometers and to correct the errors of the instruments of the war vessels. The observatory was established in 1798 for the practical training of naval officers. The institution received all the necessary instruments; but some years later these were sent to Brazil, (then a Portuguese colony,) where the court remained during the French invasion in 1809.

The observatory did not emerge from obscurity until 1856, in which year the most necessary instruments were supplied in order to enable it to fulfil the purpose for which it had been established. The principal instruments which this observatory possesses are the transit circle, by Repsold, (with 1.36 metres focal distance and an object glass .1 metre in diameter,) one transit instrument, one refracting telescope, and one universal, by Repsold.

The observatory possesses various other instruments, among them a zygometer, constructed by Sr. José Mauricio Vieira, of the Lisbon Industrial Institute.

The Royal Astronomical Observatory of Lisbon is situated in the royal park of the Ajuda, between Lisbon and Belem, on a hill 93 metres high. The plan of the observatory is similar to that of Pulkowa.

The collection of instruments in the observatory consists of one large equatorial, with 7 metres focal distance and an object glass of .38 metre diameter; one transit instrument, (Struve's,) with 2.31 metres focal distance; one transit circle, with an object glass of .15 metre diameter and 2 metres focal distance; one transit instrument, (Oom's,) with an object glass of .07 metre diameter, and .78 metre focal distance; one refracting telescope; one normal clock, by Krille; various chronometers and clocks; one time marker; electric apparatus; one zygometer; barometers; thermometers; and telegraphic apparatus.

To bring the observatory to proper perfection a large equatorial is still to be put up.

Owing to its geographical position, this observatory is likely to occupy an important place in European astronomy, for which it furnishes already excellent instruments and a very efficient staff.

The Observatory of Coimbra, the foundation of which is due to the Marquis of Pombal, stands near the university buildings, and is chiefly intended for the practical instruction in astronomy of the students in the mathematical course. The principal instruments which it possesses

are an equatorial, a transit circle, a transit instrument, and a sidereal clock, by Berthoud. The staff consists of a director, 2 astronomers, and 2 calculators.

THE NATIONAL SURVEY.

The work of the national survey in Portugal began at the end of the last century. In 1788 Dr. Francisco Antonio Ciera was entrusted with these operations. In 1796 the work was suspended, and it was only resumed in 1835, in which year the survey was entrusted to General Folgue, who had been the assistant of Dr. Ciera. General Folgue was succeeded by his son, Dr. Filippe Folgue. Slow progress was made until 1852, when the survey received a powerful impetus by the creation of the ministry of public works. A general direction of the survey was now instituted, to which, some time later, a geological department was added. To Dr. Ciera belongs the honor of having given the first impulse to the establishment of a national survey in Portugal; but General Folgue deserves credit for having organized the surveying and topographical operations.

As the public service required the early execution of a geographica map of the whole kingdom, the survey entered upon the work and completed the same within four years. The scale of the map was 1 to 500,000. The atlas of Portugal will consist of 37 pages, 22 of which are already finished.

The hydrographic works were instituted in 1842, under the direction of the minister of the navy; but very little was done until the year 1852, when hydrographic drawings were begun. The plans of the Lisbon and Oporto bars and that of Berlengas Islands have already been published.

The principal geological works executed by the respective sections up to the end of the year 1874 were the geological investigation for the construction of the general geological chart of the kingdom, on the scale of 1 to 500,000, which is nearly completed; the classification of the large collection of stones and fossils; and the publication of various memoranda on geological subjects.

The engraving of all the work executed in connection with the nationa survey has been performed in the department of engraving of the survey. All the engravings are executed on stone and have reached remarkable perfection. A photographic department was established in 1872, in order to substitute photography for stone engraving. In the short space of two years this department has produced more than 14,000 photographs. With the exception of one Swiss chemical engraver, the whole staff of operators consists of natives. Besides the above named work, the photographic department has executed various reproductions by the process of light printing, (phototypia) and sun engraving, (heliogravura.)

The staff of the direction of the survey consists of 1 director general,

7 chiefs of sections and 29 assistants, 12 engravers, 2 draftsmen, 1 printer, 1 paymaster, 3 clerks, 1 messenger, 2 collectors, and 1 servant. There are besides attached to the survey 1 sergeant, 2 corporals, and 27 men of the military battalion of engineers. The estimated expenditure for the survey in 1875–'76 was $62,466.

METEOROLOGICAL ESTABLISHMENTS.—There are in Portugal 2 meteorological observatories, one at Lisbon, the other at Coimbra, and 11 meteorological stations on the continent and 3 in the adjacent islands.

The magnetic service was inaugurated in 1857. For this service the observatory possesses the necessary magnetometers and magnetographers; also, barometers, thermometers, &c., for direct observations. These are made daily at 9 and 12 in the morning, and at 3 and 9 p. m. Twice a month the amount of magnetic declination and inclination is registered and once every month the horizontal component of the magnetic force of the globe.

For several years the observatories at Kew and Lisbon alone had complete and perfectly organized magnetic services.

The service of meteorological telegraphy, both with Paris and with all the meteorological stations of the kingdom, has also been organized. The calculations on weather probabilities, which were formerly received from Paris, are now made at the observatory of Lisbon.

There is besides a nautico-meteorological service under the control of this institution, to which are sent the logs of Portuguese ships which make meteorological observations during their voyages. For this purpose the officers of ships that apply for them are supplied with the necessary instruments, which are examined and stamped by the proper authorities before they are used.

The staff of the observatory consists of 1 director, at a salary of $400; 2 observers, at a salary of $600 each; 3 assistants, at a salary of $360 each, and 1 artist, at $144.

The meteorological stations on the continent and in the islands have together 10 assistant observers, at a salary of $108 each.

The Meteorological Observatory of Coimbra, founded in 1864, has collections of instruments similar to those in the Lisbon observatory, with which it is in telegraphic communication. The staff of this observatory consists of 1 director, 3 assistants, and 1 keeper. The total expenditure is $1,800 a year.

MUSEUMS OF NATURAL HISTORY.

Portugal has 2 museums of natural history, 1 at Lisbon and 1 at Coimbra.

The Lisbon museum is connected with the Polytechnic School, and contains valuable collections of Portuguese and foreign specimens. The staff consists of 1 director of the zoölogical section, 1 director of the mineralogical section, 2 assistant naturalists, 1 curator, and 2 preparers of specimens. The museum was allowed $3,000 for collecting specimens and for other expenses in 1875–'76.

The Coimbra University Museum was founded by the Marquis of Pombal, who caused an imposing building to be erected for the purpose in 1773. Besides the natural history section it has a physical section, in which, among many ancient and modern instruments, is shown an enormous machine for collecting electricity, by Rhumkorff.

The medical faculty have their rooms for anatomy, physiology, and medical chemistry on the ground floor of the same building. A large dispensary of pharmacy is also connected with the museum.

VARIOUS MUSEUMS.

Among these may be mentioned:

The Museum of Archæology, founded by the Archæological Society at Lisbon. It now possesses a collection of about 1,600 specimens.

The Museum of the Academy of Sciences. Here a valuable collection of coins is preserved.

The Colonial Museum, established in the naval arsenal. It contains a valuable collection of the products of the ultramarine possessions of Portugal.

The industrial museum, commonly called the Museum Fradesso da Silveira, on account of its having been established in 1874 by that well known promoter of industry.

LIBRARIES.

There are 4 public libraries supported by the government.

The principal one is the National Library, at Lisbon; the others are situated at Evora, Braga, and Villa Real. Besides these, the state possesses many other important libraries in the various scientific establishments. The number of private libraries is also very large. Several libraries possess valuable collections of rare ancient manuscripts. The National Library, at Lisbon, possesses at present more than 300,000 volumes; the library of the Academy of Sciences, 75,000 volumes; and the University Library, 58,000 volumes. These libraries were considerably enlarged by the collections of the abolished convents.

THE UNIVERSITY OF LEIPZIG.

THE UNIVERSITY OF LEIPZIG.

LEIPZIG, *January* 15, 1876.

As the University of Leipzig now occupies such a prominent position among the institutions of learning in the world, a few remarks bearing upon its recent rapid progress and present condition may be of interest, especially as it is largely attended by American students.

Commencing with the summer semester of 1850, we find 897 students inscribed, and this number varied but little until in the summer of 1865 there were 1,000 names upon the rolls, being an increase of only 103 students in fifteen years; but in the summer of 1870 we find this number increased to 1,665, and since that time we will take the winter semesters and note the rapid progress to the present time as follows:

Winter semester of 1870–'71	1,762 students.
Winter semester of 1871–'72	2,204 students.
Winter semester of 1872–'73	2,650 students.
Winter semester of 1873–'74	2,876 students.
Winter semester of 1874–'75	2,947 students.
Winter semester of 1875–'76	2,925 students.

In addition to this last and present number of regularly matriculated students there are also 107 persons not inscribed, but who, by permission, are attendants upon the lectures, making a total of 3,032 "hearers," as they are called, for, in university parlance, the professors do not teach; they "read" and students "hear."

After the summer semester of 1875, 856 students left the university and 1,006 were newly inscribed for the winter, being an increase of 150 students for the present term.

The German Empire furnishes 2,575 students, of which number Prussia contributes 1,143 and Saxony 1,031. From other European states there are 274, as follows: 86 from Austria, 67 from Russia, 62 from Switzerland, 30 from Greece and Turkey, 12 from England, 7 from the Netherlands, 6 from Sweden and Norway, and 2 each from Italy and France. From foreign countries there are: 63 from North America, 4 each from Japan and Africa, 3 from Brazil, and 1 each from Chili and Cuba; in other words, the four quarters of the globe are represented as follows: Europe, 2,849; America, 68; Asia, 4; and Africa 4; making the total of 2,925 students.

The classes number in the following order: law, 1,130; philosophy, 1,089; medicine, 369, and theology, 337 students. Under the head of

philosophy are included philosophy, agriculture, mathematics, and political economy.

The faculty consists of 60 "ordentliche Professoren," 58 "ausserordentliche Professoren," and 42 "Privatdocenten," besides a director of music and teachers and masters of fencing and gymnastics.

In medicine we find such names as Weber, Wagner, Wunderlich, Ludwig, Thiersch, and Coccius. In theology, Kahnis, Luthardt, Delitzsch, and Baur. In law, Von Wächter, Windscheid, Schmidt, Friedberg, and Osterloh. Professor Overbeck, the present "Rector magnificus," lectures on classical archæology; Professor Curtius, on classical philology; Professors Fleischer and Brockhaus, on Oriental languages; Roscher on political economy; Kolbe and Wiedemann, on chemistry, and Leuckart, on zoölogy.

There are many other names equally deserving of mention, but I have given only those who are best and most widely known.

From the above record it will be seen that in point of numbers the University of Leipsic is now the most important in Germany, if not in the world. The great majority of its students are natives of German states outside of Saxony, and it has lost all provincial character.

The former King of Saxony, a scholar himself, a man of great learning, took especial interest in this university and was its patron up to the time of his death. His son, the present King, although more of the soldier than the scholar, takes the same deep interest, and the Saxon government, having plenty of means at command, has been able to draw together here the great leaders in almost every branch of science and art and to imbue with a tone of liberality both professors and students.

The German student gains admission into the university only by a strict and severe training in the public schools and Gymnasia. Especially must he be thorough in the classics; but once in the university he takes his future in his own hands; he selects his professors and studies and improves or wastes his talents, as he thinks best; he may be sure the professors or no one else will concern themselves whether he studies or plays, and he must succeed by his own efforts or fail through his own neglect.

Special training is the object of university life, and it is to be supposed that the American student coming to Germany has finished his studies and taken his degree at home and has come for the purpose of perfecting himself in some specialty; and this subject, whatever it may be, he must study to the exclusion of all others.

Facilities are offered here for the study of some specialties such as no other university offers; for instance, the study of the oriental languages, those of the eastern as well as of the western branch, and of comparative philology.

These advantages, together with the general tone of excellence and thoroughness in the instruction in all the faculties and the comparative cheapness of the necessities of life in this city, have enabled Leipsic to

outstrip its most powerful rival, Berlin, in the struggle for the possession of the leading university of the day.

Of our own countrymen we find 63 names upon the rolls, and there are several who attend the lectures but have not matriculated; their position with professors and students is all that could be desired and the general excellence of their conduct and work is often remarked. It is not seldom that the great teachers declare their American students to be among the best they have, and it is a matter of importance and a source of congratulation that the rising scholars of our country show themselves in the front ranks of the leading schools of the world.

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No. 1—1878.

THE TRAINING OF TEACHERS IN GERMANY.

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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., August 30, 1878.

SIR: American educators are turning their attention with increasing interest to the importance of securing well trained teachers; this Office is called upon to answer many questions respecting teaching in Germany.

With a view to answering such inquiries, I have had prepared the following brief summary of existing laws in relation to the training, examination, appointment, salary, and professional duties of teachers in several of the German states, together with the latest attainable statistics relating thereto.

Very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

Hon. C. SCHURZ,
Secretary of the Interior.

Approved.

C. SCHURZ,
Secretary.

THE TRAINING OF TEACHERS IN GERMANY.

I.—ELEMENTARY SCHOOL TEACHERS.

PRUSSIA.

The Prussian Centralblatt für die gesammte Unterrichts-Verwaltung, Berlin, October, 1877, published under the auspices of the ministry of public instruction, gives the following account of institutions for the training of teachers of elementary schools during the period from December, 1870, to December, 1876. The reason for selecting these dates is that the yearly inspection reports show the state of these institutions down to December in each year. The starting point of the great improvement which has been effected was a resolution adopted by the national assembly (Landtag) December 22, 1870, at the very crisis of the Franco-German war, calling on the government "to endeavor to meet more rapidly than hitherto the pressing need for the erection of new training institutions and the enlargement of those already existing, and thus to put an end to the practice of filling up teachers' vacancies by appointing unqualified individuals."

The following table gives a summary of these institutions existing in Prussia and maintained out of public funds in December, 1876.[1]

Seminaries for male teachers.

Province.	Number of seminaries.			Number of students.			Number of graduates, 1876.
	1870.	1876.	Increase.	1870.	1876.	Increase.	
Prussia	10	13	3	682	999	317	232
Brandenburg	7	9	2	507	662	155	190
Pomerania	8	8	.....	357	494	137	160
Posen	5	5	.....	274	310	36	83
Silesia	10	17	7	738	1,078	340	288
Saxony	8	9	1	467	582	115	191
Schleswig-Holstein	3	4	1	222	361	139	105
Hanover	8	10	2	379	617	238	174
Westphalia	5	6	1	293	448	155	109
Hesse-Nassau	5	6	1	321	432	111	104
Rhine Province	6	12	6	410	746	336	139
Total	75	99	24	4,650	6,729	2,079	1,775

[1] In Germany the institutions for the training of teachers are called "teachers' seminaries," which name will be used in the following pages, instead of "normal schools," the term usually applied to similar institutions in the United States.

Seminaries for female teachers.

Province.	Number of seminaries.			Number of students.			Number of graduates, 1876.
	1870.	1876.	Increase.	1870.	1876.	Increase.	
Brandenburg	1	1	.....	168	161	*a* 7	70
Posen	1	1	.....	49	76	27	23
Saxony	2	2	.....	92	93	1	34
Westphalia	2	2	.....	49	98	49	46
Rhine Province	.....	1	1	.....	42	42	.....
Total	6	7	1	358	470	112	173

a Decrease.

Therefore, in 1876, there were 2,079 more students in training than in 1870, and the yearly increase in the number of those who devote themselves to the profession of teaching in the elementary schools is about six hundred and fifty more each year now than it was then.

This result has been obtained, not by shortening the period of training, but by the reorganization of establishments which had not been fully completed, by increasing the accommodations of existing institutions and by founding new ones. There were in 1870 some subordinate training schools in which the course of preparation was not complete in all branches. These have been either raised to a satisfactory grade or have been discontinued. During the twenty-five years from 1846 to 1870, only twenty new seminaries were founded, while during the following six years, 1870–1876, twenty-six were established. Of these, three were in the province of Prussia, two in Brandenburg, seven in Silesia, one in Saxony, one in Schleswig-Holstein, three in Hanover, one in Westphalia, one in Hesse-Nassau, and seven in the Rhine Province.

The following table shows the increase in the number of the population and of the students from 1870 to 1876, and also the relative increase during the same period.

Statistics relating to teachers' seminaries in the Kingdom of Prussia.

Province.	Population.		Number of students in teachers' seminaries.		Increase in the population.	Increase in the number of students in teachers' seminaries.	For every student there were inhabitants in 1876 —
	1870.	1876.	October, 1870.	October, 1876.			
					Pr. ct.	*Pr. cent.*	
Prussia	3,063,085	3,199,171	701	999	4	42	3,202
Brandenburg	2,661,621	3,126,411	521	662	17	27	4,723
Pomerania	1,426,430	1,462,290	357	494	2	38	2,960
Posen	1,519,191	1,606,084	288	310	6	7	5,180
Silesia	3,547,705	3,843,699	759	1,078	8	42	3,565
Saxony	2,036,419	2,168,988	477	582	6	22	3,726
Schleswig-Holstein	963,517	1,073,926	227	361	14	59	2,974
Hanover	1,916,048	2,017,393	368	617	5	67	3,270
Westphalia	1,695,995	1,905,697	297	448	18	50	4,253
Hesse-Nassau	1,363,820	1,467,898	329	432	7	31	3,397
Rhine Province and Hohenzollern.	3,480,698	3,870,847	462	746	11	62	5,189
The Kingdom	23,674,529	25,742,404	4,786	6,729	9	41	3,826

It appears from the foregoing statistics that there is ample provision in Prussia for the professional training of teachers. The high standard of education in that country is largely due to the practice of the state which intrusts the instruction of the young only to thoroughly trained teachers, who have received their education in seminaries controlled and almost exclusively supported by the commonwealth. This action is based on the principle that the universal education of the people and the consequent growth of the state in wealth and power are impossible without the agency of the teacher's profession, and that such a profession is only possible through the adoption of measures calculated to make it at once honorable, secure, and independent.

The beneficial influence of the Prussian seminaries and the admirable results which they have brought about invite inquiry as to their gradual development, their organization and management, and the legal provisions respecting them.

The following pages will give a brief account of the principal features of the Prussian training system, together with the laws and regulations upon which it is based.

HISTORICAL SKETCH.

The first teachers' seminary in Prussia was established in the year 1697, by August Hermann Francke, professor in the University of Halle. It consisted at first of only one class, which was connected with an orphan school conducted by Francke in the same city. Francke had especially in view the training of trustworthy assistants for the institutions he was conducting, and it was only in 1704 that the former training class was transformed into a seminarium præceptorum, or teachers' seminary. The twelve pupils with whom Francke opened the seminary received, during two successive years, a thorough training in the principles and practice of teaching, and after they had left the school they imparted their experience to educators throughout the country. The Francke seminary soon became an object of admiration throughout Germany, and the demand for the study of the new methods of teaching became universal. In 1735 a similar institution was established in Stettin; in 1748 still another one in Berlin; and since the state began to enforce the training of teachers before allowing them to instruct the young, the number of seminaries has increased very rapidly. We find at present 106 of these institutions scattered throughout the kingdom. Each departmental district possesses at least one and nearly all have two of them. They are well endowed, partly by the state and partly by private benefactions. The instruction given in them is gratuitous, and at least one-half of the living expenses of the students is borne by the state or defrayed out of the funds of the seminary. Everything is provided which may contribute to the perfection of the intellectual and physical training of the students.

Of the 90 seminaries for male teachers, 44 are boarding and lodging

establishments, having 4,606 inmates, 27 are only places of instruction, while in the remaining 28 some accommodation is provided for the students in training. There are, of course, practice schools attached to each seminary. The number of children under instruction in those schools in 1876 was 13,820.

SEMINARY MANAGEMENT.

One of the great questions of the day among the leading educators in Prussia is, whether the students should henceforth reside in common in the seminary or board apart from each other and meet only to receive instruction. The arguments for and against the boarding system would already fill many volumes, and are rapidly increasing.

There is no general code of regulations for the management of the seminaries, the practice being to select some teacher of known merit and tried skill as director of each seminary, and to leave the organization to him, under the supervision of the provincial school authorities. In most cases the director is a minister of the Protestant or a priest of the Catholic church. He has entire charge of the seminary, superintending the domestic economy and discipline as well as instruction. He is assisted by an able staff of teachers, who meet him once a week in conference to discuss the progress and conduct of the pupils, the plans of instruction, and other matters relating to the institution.

In regard to the classes of the population which furnish the candidates, it must be stated that a large number, as sons of teachers, follow their fathers' profession; the greatest number, however, are sons of farmers and small tradesmen, and some are pupils of the orphan asylums. The higher classes of society furnish but few candidates. There are none among the teachers of public elementary schools who have enjoyed a university education, but there are many private teachers who, after having studied at the university, or in theological seminaries, also passed their examinations for common elementary and advanced elementary teaching.

CONDITIONS OF ADMISSION.

As nearly all the expenses of the young teacher's education in the seminary are borne by the country at large, it has been decreed by the government that every student who is received in the seminary shall bind himself to serve for three years after leaving the seminary in whatever situation may be assigned him by the departmental school board. Great efforts are also made to test his natural aptitude for teaching before he enters the institution, and individuals on whom the professional training would be lost are not admitted.

Any person desiring to be examined for admission to a teachers' seminary must forward to the director of the institution a certificate signed by his religious minister, certifying that his character and past life

have been moral and blameless: a certificate from a physician certifying his freedom from chronic disease and the soundness of his constitution and health; a certificate of his having been vaccinated within the last two years; a certificate of his baptism, if a Christian; and a certificate, signed by two or more teachers, of his previous industrious and moral habits and of his possessing sufficient abilities for the teacher's profession.

On the day appointed, all the young candidates who have complied with the preceding regulations and who have attained the age of seventeen are examined in the following subjects: Biblical history, history of Christianity, catechism, writing, reading, grammar, arithmetic, geography, German history, natural history, instrumental and vocal music.

When the examination is concluded, a list of the candidates is made out in the order of their standing. Those standing highest on the list are then elected students of the seminary to fill the existing vacancies.

COURSE OF INSTRUCTION.

The course of instruction in the seminaries is, according to the regulations of October 15, 1872, of three years' duration, and is arranged as follows:

Subjects.	Classes, and number of hours per week.		
	Lowest.	Middle.	Highest.
Religion	4	4	2
Pedagogics	2	2	2
German language	5	5	2
Arithmetic	3	3	1
Geometry	2	2	1
Natural sciences	4	4	2
Geography	2	2	1
History—Prussian, German, Greek, and Roman	2	2	2
Music, vocal and instrumental	5	5	2
Drawing	2	2	1
Penmanship	2	1	....
Gymnastic exercises	2	2	2
French or Latin, according to the option of the student	3	3	2
Number of hours per week	38	37	20

The students have besides several hours' practice in the schools attached to the seminary, and they are expected to devote considerable time to private reading under the supervision of their teachers. This private reading, of which a weekly account has to be given before the whole class, must be devoted chiefly to the German classic writers and to the best educational and pedagogic works.

The students also receive an industrial training, which consists in the performance of all ordinary housework, preparing the meals, taking care of the sleeping apartments, pruning the fruit trees, and cultivating the land attached to the school.

DAILY PROGRAMME.

The division of the day in most of the teachers' seminaries is as follows: The students rise at five o'clock. Religious exercises and study occupy the time until breakfast, which is at seven o'clock. After this the remainder of the hour is devoted to recreation. From eight to twelve they are engaged in recitations, listening to lectures, or teaching. The hour from twelve to one is for dinner and recreation. From one to five they are again in school. From five to seven they have recreation and excursions. At seven, supper. From eight to nine, study. At half-past nine in winter and ten in summer the students retire. On Wednesday and Saturday they have half a day for recreation, and for excursions to collect plants and minerals. The holidays are six weeks in summer, one week at Christmas, and one week at Easter.

EXAMINATIONS.

At the end of the third year the students are examined by a committee specially appointed for this purpose by the government. The examinations are of three kinds: oral, in writing, and by practical exercises in teaching.

The oral examination embraces the German language, Latin or French, mental arithmetic, geometry, the art of teaching, and music. The written examination consists of answering questions in Biblical history, arithmetic, natural sciences, geography, and history; the character of the handwriting appears from the exercises. The exercises in teaching consist in giving catechetical lessons upon subjects assigned by the examiners.

According to the manner in which each student acquits himself in this examination he receives a diploma marked I, II, or III, or else he is rejected.

A graduate whose diploma is marked I is entitled to act as principal teacher, but the holder of a diploma marked II or III can only act as an assistant teacher until he has qualified himself to pass another examination for a higher degree.

No person without a diploma is permitted to teach in a public school.

APPOINTMENT OF TEACHERS.

After leaving the seminary the appointment of the candidate to a teacher's position is strictly guarded, and every precaution is taken to surround him with the means for professional improvement.

In most cases the nomination of the candidate or teacher for a vacancy is left to the local school boards, but their nominations have to be ratified by the departmental school authorities to whose jurisdiction the local board belongs. In a few places, the appointment of the candidate or the transfer of a teacher from one school to another is effected by direct decree of the departmental board. The city and town coun-

cils are generally invested with the privilege of nominating candidates for appointment as teachers of the higher elementary and burgher schools; the number of individual patrons in the country invested with the privilege of nomination is comparatively small.

DUTIES AND SALARIES OF TEACHERS.

The duties of the teacher are either in the school alone, or in the school and church. The church duties consist in assisting the minister as sexton at baptisms, marriages, burials, &c. Most teachers have been, of late, released from the church duties.

A regularly appointed teacher is recognized as a member of the civil service. He is entitled to permanent employment, and can only be dismissed when a court of justice has sentenced him to the loss of his rights as a citizen, or on account of objections to his morality, in which case, however, the decision does not rest with the school board, but with a court of justice. On complaint being entered against a teacher, the school authorities may suspend him from his place, he being obliged to pay for a substitute to perform his duties while so suspended. If the complaint is dismissed, and the suspension removed, the amount so paid is refunded to him. The board may also refuse appointment to permanent employment for an indefinite period.

No teacher is allowed to engage in other occupations without the consent of the departmental school board.

The salaries of teachers in Prussia are, as a rule, quite moderate, and, although they have been slightly increased during the last years, they are still too small in comparison with the salaries paid to other professional men in that country. The salary of a principal teacher in a large city is eight hundred to a thousand dollars a year; that of an assistant teacher, three hundred to six hundred dollars; and that of a female teacher two hundred to three hundred and fifty dollars. An extra allowance is generally made for house rent and fuel. In small towns and in the country the teacher's salary amounts to about one-half of that paid for the same grade in larger cities. Country school teachers are always provided with a house and garden, and they receive part of their salary in country produce. The widow or orphans of a deceased teacher are allowed the salary for two or three months after his death.

On account of the small salaries paid in Prussia many talented young teachers embrace the opportunities offered them to obtain better compensation for their services in other parts of Germany or abroad.

PENSIONS.

A teacher is entitled to a pension as soon as he becomes incapacitated by mental or bodily infirmities for the performance of his official duties. If a teacher does not apply for a pension, but the departmental authorities consider him unable to continue his work, he is officially

requested to retire within six weeks. He may, however, appeal to the provincial school board, whose decision is final. All teachers are bound to join the teachers' pension association. The amount of the annual pension depends on the number of years in service and the former salary of the emeritus. Teachers who received a yearly salary not exceeding $200, receive a pension of $50 a year after fifteen years' service, $100 after thirty years, $120 after forty years. If the salary exceeded $200 the pension is higher in proportion. All pensions are paid quarterly in advance. There is also a fund of about one million five hundred thousand dollars for the pensioning of teachers' widows and orphans.

LAWS AND REGULATIONS.

Following is a summary of the laws and regulations issued before the year 1854:

The teacher ought to be a religious and prudent man, imbued with great respect for his profession. He must understand his important duties to their fullest extent before he enters upon them. He must also be firm in his fidelity to the state, conscientious in the discharge of his duties, and he ought to inspire all around him with interest in the school.

Each departmental district (Regierungsbezirk) is required to have a sufficient number of young men prepared to fill the yearly vacancies in the ranks of the teachers and to support a teachers' seminary, which shall be organized according to the following regulations:

No seminary for teachers of elementary schools shall admit more than seventy students.

In a departmental district where the number of Protestants and Catholics is equal, or nearly so, there shall be, whenever circumstances will permit, a separate seminary for the students of each denomination. But where the inequality in the numbers of the two denominations is very marked, the teachers of the least numerous denomination shall be trained in the seminary belonging to such denomination in a neighboring district. Seminaries for students of different denominations (in Germany styled "simultaneous seminaries") may be established when the students can obtain suitable religious instruction in the doctrines of their respective churches near at hand.

The seminaries shall be established, whenever it is possible, in small towns, so as to preserve the students from the dissipations, temptations, and habits of life which are not suitable to their future profession, without subjecting them to monastic seclusion; but the town ought not to be too small, in order that they may profit by the vicinity of several elementary schools.

No one can be admitted into a seminary who has not passed through a course of instruction in an elementary school, nor can any one be admitted whose moral character is not irreproachable. The age of admission into the teachers' seminary shall be from sixteen to eighteen years.

Concerning the methods of instruction, the directors of teachers' seminaries shall rather seek to conduct the students by their own experience to simple and clear principles than to give them theories for their guidance; and with this end in view, elementary schools shall be attached to all the teachers' seminaries, in which the students may be practised in the art of teaching.

In each seminary the course of instruction shall last three years; the first to be devoted to the continuation of the course of instruction which the pupils began in the elementary schools; the second to instruction of a higher character, and the third to practice in the schools attached to the seminaries. For those who are sufficiently advanced when they enter the establishment and who do not require the first year's instruction, the course may be reduced to two years.

In each teachers' seminary particular funds, set apart for that purpose, shall be devoted to the support of young men of good character, not able to pay for themselves, but in such a manner as not to habituate them to too many comforts, and not to render them unfit for the least remunerative situations in the elementary schools. Every student who receives such assistance from a teachers' seminary is obliged at the end of his course to accept the place which the school authorities assign him; a prospect of advancement, however, must always be held out to him in case of increased efficiency and good conduct.

The provincial authorities have the immediate supervision of all the teachers' seminaries in their respective provinces.

No young man is allowed to conduct an elementary school until he has obtained a certificate of his ability and qualifications. The examination for these certificates is conducted by commissions composed of two laymen and two clergymen. The provincial school authorities nominate the lay members and the different ecclesiastical authorities nominate the clerical members for the examination in the doctrines of the respective churches.

The members of these commissions hold office for three years and are eligible to reappointment.

The lay and the clerical examiners join in granting the certificates, but the religious and secular examinations are conducted separately. The certificates are also signed by the director of the seminary in which the teacher has been educated.

These certificates are not valid until they have been ratified by the provincial school board, and in the case of the certificates granted to Roman Catholics, the further ratification of the bishops is necessary. If the provincial authorities and the bishops cannot agree about the granting of any certificate, the matter is referred to the minister of public instruction, whose decision is final. The provincial school authorities may at any time reëxamine the candidates, if they think there is any reason to doubt what is specified on the certificate granted by the committee of examination, and may declare the candidates unfitted.

The conditions of examination and award of certificates are the same in the case of a young woman who is a candidate for a situation as teacher as in that of a young man.

The election of teachers for the communal elementary schools is the duty of the local school boards, but the teachers cannot be installed until their election has been ratified by the departmental school board.

The provincial school boards are required to nominate able and zealous inspectors, who shall organize and direct teachers' conferences for the purpose of fostering among them a lively interest in their profession and a desire for improvement.

The provincial school boards have the power to send the teacher who appears to need further instruction to a seminary until he is better qualified for his functions. The expenses of this second seminary course are defrayed by the government.

The teachers are encouraged to continue their own education by hopes of advancement, but before appointment to a higher grade they must pass a second examination before the same committee which conducted the first.

If a teacher is negligent or conducts himself improperly he is reprimanded by the school inspector. If this fails to effect an improvement, the inspector must report him to the departmental school board, which has the power to fine or remove him.

Teachers who qualify themselves for promotion to the direction of a teachers' seminary are enabled to travel, both in Prussia and other countries, for the purpose of extending their knowledge of the organization and discipline of schools.

The director of a seminary is required to visit a certain part of the schools in his circuit once a year. He must make himself acquainted with the condition of the schools, to give the teachers such hints for improvement as his observation may suggest, and to present the results of his yearly visits, in the form of a report, to the school authorities of the province.

To the end that the beneficial influence of the seminary may be extended to those already engaged in teaching, who either require further instruction or who are even deteriorating with respect to their professional skill, it is required that such teachers shall be recalled to the seminary for a shorter or longer period, to enable them to improve their knowledge in the particular branches in which they are found deficient.

ADDITIONAL REGULATIONS ISSUED IN 1854.

A course in systematic pedagogics is to be excluded from the studies of the future elementary school teacher, but the students are to receive instruction in the art of school management during two hours in each week. In the first year this course is to give an account of the primitive Christian school and its relations to state, church, and family; in the second year, the organization and management of the elementary

school are to be explained; and in the third year the duties of the future teacher as servant of state and church and also the means of self-improvement are to be taught. The students shall also be taught how to prepare their lessons for the practice school, how to establish and maintain discipline, and how to explain the text of the holy scriptures.

The religious instruction in the teachers' seminaries is henceforth to be termed "catechism." Its object is to provide a direction and a firm footing for the individual religious confession of the pupil through a profound understanding of God's word. As this subject of instruction is not one which the teacher has himself to reproduce in the elementary school, it is not subject to the same limitations in all respects as the other branches of instruction which do occur again in the elementary school. The religious instruction in the seminary ought to exert a powerful influence on the teacher; and it is, therefore, of great importance that sure and abiding results of a Christian confession should be sought.

The future teacher shall be required to be able to repeat, without book, each scripture story in the form in which it is taught in the elementary school. He shall be able to establish a connection of the scripture teaching with the order of the church year.

From this time forth an indispensable condition of admission into the seminary will be an exact acquaintance with the stories of the Bible, as contained in the manuals approved for this purpose, and the ability to recite them from memory.

The future teacher must be fully qualified to instruct in language and reading. The seminaries hitherto have too much neglected to teach a simple method of learning to read. To qualify the teacher in this branch, neither theoretical instruction nor practice in the model school will alone suffice; but it will be necessary to take the student in the lowest class through a course of practical lessons in all the details of teaching to read, which practice must be continued till the right method has been thoroughly mastered.

In the use of the reading book it is not enough to instruct the student generally in the mode of interpreting. Each portion of the reading book must be gone through in the manner in which it has to be afterward taught in the elementary school.

In connection with the reading book the students must be introduced to German grammar, keeping in view always that this is a subject which they will not be obliged to teach in the school. The written exercises for the two lower classes must be made in connection with the reading lesson; but in the upper class they may consist of independent reproduction of single parts out of other parts of the course, or of the consideration of questions which concern the profession of teacher. The student should also be made acquainted with the form of official documents which he may afterward have occasion to write. Each year the students must be directed to a course of private reading, and they shall be called on from time to time to give an account of their

progress to the teacher. In the choice of books for this purpose regard must be had not merely to the student's own culture but to the influence which he may hereafter exercise, beyond the limits of the school, upon the character and morals of the people.

The instruction in history and geography shall begin at a common point, viz, our own country. History shall be limited to Germany and Prussia and that province in which the school is situated. It should be one of the first duties of the teacher to inculcate in those with whom he comes in contact a knowledge of the patriotic traditions and characters of the past and present, and a sentiment of respect and love for the reigning family. This patriotic history should be brought into connection with the life of the people, and their mode of thinking, for which purpose the days of patriotic commemoration are to be put prominently forward and employed as points of departure. The students of the seminary should learn the best specimens of popular poetry.

As the instruction in history is confined to the higher class, so that in geography shall be confined to the two lower classes.

Natural history shall be taught during the first and second year, two hours a week, but not in a strictly scientific manner. The principal indigenous plants and animals shall be illustrated and described to the pupils. In botany a foundation for further private study shall be laid. The pupils shall be taught to distinguish the principal native minerals and rocks. A popular description of the human body shall be given. The pupils ought to acquire a love for nature and natural occupations. A practical direction, too, may be given to this branch of instruction by constant reference to horticulture, trade, and industry. In the third year the students may advance to natural philosophy, which shall always be treated in an experimental manner.

The instruction in geometry is limited to the principal geometrical figures, plane and solid, their properties and the modes of measuring them, without any scientific method or calculus. Arithmetic shall be taught with the view to enable the future teacher to teach this branch in the popular elementary school; the higher parts of arithmetic may, however, be arranged for private study.

The method of teaching to write is to be learned along with the practice in writing. Drawing in the seminary must not go beyond introductory lessons in the linear representation of simple objects.

Music is cultivated for moral and church objects. The seminary has not only to form the teacher of singing for the school, but also the organist for the church.

The "Regulativ" of which the foregoing is a summary has always been bitterly attacked by the liberal educators in Prussia. Their zealous efforts have been in a measure successful since the accession of Dr. Falk to the ministry of public instruction, and they expect still greater improvement in the training system while he remains in office.

STATISTICAL TABLES.

The following tables are of interest as exhibiting the number of students in the elementary training schools in 1870 and 1876, the number of graduates in 1876, and the number of pupils in the practice schools in 1876 for the several provinces of Prussia:

TABLE I.—PROVINCE OF PRUSSIA.

No.	Location.	Denomination.	No. of students in 1870.	No. of students in 1876.	No. of graduates in 1876.	Number of pupils in the practice schools in 1876.		
						Boys.	Girls.	Total.
1	Braunsberg	Catholic	44	75	17	104	.....	104
2	Eylau	Protestant	80	81	23	89	80	169
3	Friedrichshoff	....do	34	51	14	52	48	100
4	Osterode	....do	.....	66	18	86	72	158
5	Waldau	....do	84	85	26	71	78	149
6	Angerburg	....do	77	85	24	53	46	99
7	Karalene	....do	81	90	26	68	67	135
8	Berent	Catholic	57	70	13	65	.....	65
9	Marienburg	Protestant	73	73	23	64	52	116
10	Friedland	....do	80	75	24	62	59	121
11	Graudenz	Catholic	72	90	24	69	85	154
12	Löbau	Protestant	.....	78	.....	46	32	78
13	Tuchel	Catholic	.....	80	.....	37	40	77
	Total		682	999	232	866	659	1,525

TABLE II.—PROVINCE OF BRANDENBURG.

1	Berlin	Protestant	57	70	19	160	.....	160
2	Cöpenick	....do	98	78	32	87	74	161
3	Kyritz	....do	58	66	27	128	102	230
4	Neu-Ruppin	....do	.....	59	.....	90	.....	90
5	Oranienburg	....do	71	65	31	160	122	282
6	Alt-Döbern	....do	51	68	26	138	144	282
7	Drossen	... do	74	80	25	130	96	226
8	Königsberg	....do	.....	85	.....	126	.....	126
9	Neuzelle	....do	98	91	30	103	102	205
	Total		507	662	190	1,122	640	1,762

TABLE III.—PROVINCE OF POMERANIA.

1	Kammin	Protestant	49	67	24	147	.....	147
2	Pölitz	....do	80	67	25	179	80	259
3	Pyritz	....do	24	71	21	189	.....	189
4	Bütow	....do	70	75	23	92	76	168
5	Dramburg	....do	24	68	.....	88	50	138
6	Köslin	....do	44	78	33	82	67	149
7	Franzburg	....do	56	56	20	153	10	163
8	Gingst	....do	10	12	14	.....	.....	.....
	Total		357	494	160	930	283	1,213

TABLE IV.—PROVINCE OF POSEN.

1	Koschmin	Protestant	50	62	20	79	88	167
2	Paradies	Catholic	54	64	18	76	56	132
3	Rawitsch	Admits Protestants and Catholics.	70	59	19	177	.....	177
4	Bromberg	Protestant	44	75	15	214	.....	214
5	Exin	Catholic	56	50	11	95	111	206
	Total		274	310	83	641	255	896

TABLE V.—PROVINCE OF SILESIA.

No.	Location.	Denomination.	No. of students in 1870.	No. of students in 1876.	No. of graduates in 1876.	Number of pupils in the practice schools in 1876.		
						Boys.	Girls.	Total.
1	Breslau	Catholic	95	77	31	80	87	167
2	Habelschwerdt	do	.....	53	19	81	89	170
3	Münsterberg	Protestant	70	76	22	41	40	81
4	Oels	do	.....	30	.....	.....	.....	.....
5	Steinau	do	79	76	24	74	61	135
6	Bunzlau	do	78	68	24	79	48	127
7	Liebenthal	Catholic	76	71	20	112	.....	112
8	Reichenbach	Protestant	58	79	20	75	73	148
9	Sagan	do	.....	50	20	43	44	87
10	Ober-Glogau	Catholic	89	82	16	74	89	163
11	Kreuzburg	Protestant	34	69	17	52	50	102
12	Oppeln	Catholic	.....	62	.....	.....	.....	.....
13	Preiskretscham	do	84	82	25	94	98	192
14	Pilchowitz	do	75	67	19	79	63	142
15	Rosenberg	do	.....	43	14	79	67	146
16	Ziegenhals	do	.....	54	17	33	41	74
17	Zülz	do	.....	39	.....	.....	.....	.....
	Total		738	1,078	288	996	850	1,846

TABLE VI.—PROVINCE OF SAXONY.

1	Barby	Protestant	71	68	19	116	119	235
2	Halberstadt	do	65	84	29	94	146	240
3	Osterburg	do	57	61	20	47	53	100
4	Delitzsch	do	.....	65	21	91	.....	91
5	Eisleben	do	50	70	21	112	93	205
6	Elsterwerda	do	53	51	19	29	19	48
7	Weissenfels	do	69	82	25	252	179	431
8	Erfurt	do	69	56	26	113	147	260
9	Heiligenstadt	Catholic	33	45	11	62	.....	62
	Total		467	582	191	916	756	1,672

TABLE VII.—PROVINCE OF SCHLESWIG-HOLSTEIN.

1	Eckernförde	Protestant	56	90	30	144	.....	144
2	Tondern	do	93	138	43	173	.....	173
3	Segeberg	do	73	87	32	161	.....	161
4	Uetersen	do	.....	46	.....	.....	.....	.....
	Total		222	361	105	478	.....	478

TABLE VIII.—PROVINCE OF HANOVER.

1	Hanover	Protestant	59	69	25	68	85	153
2	Wunstorf	do	.....	84	30	90	60	150
3	Alfeld	do	81	102	30	77	82	159
4	Hildesheim	Catholic	16	30	5	40	.....	40
5	Lüneburg	Protestant	44	69	29	38	69	107
6	Osnabrück	do	34	48	15	52	73	125
7	Bederkesa	do	.....	26	.....	.....	.....	.....
8	Stade	do	79	82	30	91	131	222
9	Verden	do	.....	36	.....	.....	.....	.....
10	Aurich	do	66	71	10	55	29	84
	Total		379	617	174	511	529	1,040

TABLE IX.—PROVINCE OF WESTPHALIA.

No.	Location.	Denomination.	No. of students in 1870.	No. of students in 1876.	No. of graduates in 1876.	Number of pupils in the practice schools in 1876.		
						Boys.	Girls.	Total.
1	Langenhorst	Catholic	38	54	24	67	.....	67
2	Büren	....do	82	112	36	192	.....	192
3	Petershagen	Protestant	56	77	16	132	136	268
4	Hilchenbach	....do	51	84	16	135	153	288
5	Soest	....do	66	87	17	88	83	171
6	Rüthen	Catholic	.....	34	.....	.....	.....	.....
	Total		293	448	109	614	372	986

TABLE X.—PROVINCE OF HESSE-NASSAU.

1	Fulda	Catholic	47	40	13	57	39	96
2	Homberg	Protestant	77	80	27	211	214	425
3	Schlüchtern	....do	68	83	23	189	198	387
4	Dillenburg	Protes'ts and Cathl's	.....	79	.....	.....	.....	.....
5	Montabaur	....do	59	70	23	.....	.....	.....
6	Usingen	....do	70	80	18	126	.....	126
	Total		321	432	104	583	451	1,034

TABLE XI.—RHINE PROVINCE.

1	Boppard	Catholic	72	81	23	94	.....	94
2	Neuwied	Protestant	86	88	30	295	.....	295
3	Elten	Catholic	.....	66	.....	186	.....	186
4	Kempen	....do	100	96	32	.....	.....	.....
5	Mettmann	Protestant	.....	49	.....	192	.....	192
6	Mörs	....do	52	89	22	151	.....	151
7	Brühl	Catholic	100	100	32	220	.....	220
8	Siegburg	....do	.....	30	.....	.....	.....	.....
9	Ottweiler	Protestant	.....	56	.....	109	121	230
10	Wittlich	Catholic	.....	30	.....	.....	.....	.....
11	Kornelymünster	....do	.....	31	.....	.....	.....	.....
12	Linnich	....do	.....	30	.....	.....	.....	.....
	Total		410	746	139	1,247	121	1,368

TABLE XII.—RECAPITULATION.

Number.	Province.	Number of teachers' seminaries in 1870.	Number of teachers' seminaries in 1876.	Number of students in 1870.	Number of students in 1876.	Number of graduates in 1876.	Number of pupils in practice schools.		
							Boys.	Girls.	Total.
1	Prussia	10	13	682	999	232	866	659	1,525
2	Brandenburg	7	9	507	662	190	1,122	640	1,762
3	Pomerania	8	8	357	494	160	930	283	1,213
4	Posen	5	5	274	310	83	641	255	896
5	Silesia	10	17	738	1,078	288	996	850	1,846
6	Saxony	8	9	467	582	191	916	756	1,672
7	Schleswig-Holstein	3	4	229	361	105	478	.....	478
8	Hanover	8	10	379	617	174	511	529	1,040
9	Westphalia	5	6	293	448	109	614	372	986
10	Hesse-Nassau	5	6	321	432	104	583	451	1,034
11	Rhine Province	6	12	410	746	139	1,247	121	1,368
	Total	75	99	4,659	6,729	1,775	8,904	4,916	13,820

TABLE XIII.—PROVINCES OF BRANDENBURG, POSEN, SAXONY, WESTPHALIA, AND THE RHINE.[1]

Number.	Location.	Province.	Denomination.	Number of students in 1870.	Number of students in 1876.	Number of graduates in 1876.
1	Berlin	Brandenburg	Protestant	168	161	70
2	Posen	Posen		49	76	23
3	Droyssig (for governesses)	Saxony	Protestant	51	51	15
4	Droyssig (for teachers)	do	do	41	42	19
5	Münster	Westphalia	Catholic	29	54	17
6	Paderborn	do	do	20	44	29
7	Saarburg	Rhine Province	do		42	
	Total			358	470	173

[1] Seminaries for female teachers.

BAVARIA.

The Bavarian regulations prescribe that those who intend to devote themselves to the profession of teaching shall not only acquire the necessary knowledge, but be subjected to a thorough training of the character. The mere instruction is to be reduced and the training to be rendered more permanent in effect. The design of the whole course of instruction is to educate teachers true to their faith and their country, obedient to the laws, and interested in their profession. The education of the teacher includes the preliminary training, the seminary course, and the continuation of professional studies after the seminary course. The preliminary course is to begin at the end of the thirteenth year, or not later than the end of the fifteenth, and lasts three years. The candidates are admitted to it upon an examination by the joint commission of the districts, and are taught in the preparatory seminaries of the districts, or by teachers selected for this purpose by the school authorities. In most cases teachers living in the country and in smaller towns are selected, in order that the young students may be accustomed to simple habits. The course of instruction includes, besides the ordinary branches of the elementary schools, music, drawing, horticulture, and agriculture. Between the ages of 17 and 20, the candidate who is physically sound and able to furnish the necessary testimonials of capacity and good character may be admitted to the regular teachers' seminary, upon special examination before a board composed of a government commissioner, a delegate of the church authorities, the director, and two teachers of a seminary. The seminary course is of two years' duration. The branches of study are: Religion, language, arithmetic, algebra, geometry, penmanship, music, history of education, science of education, natural history, general history, agriculture, gymnastics, and drawing. The pupils all live in the seminary buildings.

Examinations.—The graduating examinations take place at the end

of each scholastic year. The graduates receive diplomas, marked I, II, or III, according to their standing. Those receiving diplomas may be employed as assistant teachers, and after two years' professional service as regular teachers.

Appointments.—The appointment of teachers, as well as their suspension and dismissal, is in the hands of the departmental school boards. Nominations can be made only of those who have passed an examination, and for cities only those marked I. Appointments to united school and church service (teacher and sexton) must also have the approval of the church authorities. A teacher who is once definitely appointed cannot be removed unless he is physically or morally unfit to continue his services.

Salaries and pensions.—The salaries of teachers in cities range from 400 to 800 florins,[1] and those of country teachers from 200 to 500 florins. They receive besides a dwelling and fuel. Disabled teachers receive a retiring pension from their last place. The old and sick are frequently allowed an assistant, and thus occupy their places until death.

Statistics.—Bavaria has 35 preparatory seminaries to which graduates of the elementary schools are admitted. The total number of teachers in the preparatory seminaries in 1875 was 161, and the number of pupils 1,276. The expenditure amounted to 208,682 florins. The regular teachers' seminaries numbered 89, and the number of students 786; total expenditure, 255,261 florins.

WÜRTEMBERG.

Statistics.—Würtemberg had, in 1873, 2,085 teachers. For the training of teachers there were 2 Protestant state seminaries, with 52 teachers; a Catholic state seminary, with 7 teachers; 6 Protestant private seminaries, with 34 teachers; and a Catholic private seminary, with 5 teachers. The total number of students was 658, of whom 55 were females.

Method of training teachers.—The usual method of training teachers is this: The candidates are subjected to a preliminary examination before a committee specially appointed for this purpose. If they pass creditably, they receive permission to begin the preparatory course, either with or without the promise of receiving pecuniary assistance from the government. This preparatory course lasts three years, the first of which is the so-called trial course. They are then subjected to another examination, and when they have passed receive further instruction in the seminary in the following branches: Religion, pedagogics, a thorough knowledge of man as to body and mind, logic, physical and mental faculties of children, and the best methods of developing them, fundamental principles of education, historical development of elementary

[1] The Bavarian florin = 41.17 cents, gold.

schools in Würtemberg and Germany, language, grammar, composition, speeches, history of literature, method of teaching the mother tongue, mathematics, arithmetic, algebra and geometry, natural history, the natural productions of the animal, vegetable, and mineral kingdoms, natural philosophy, elements of chemistry and physics, geography, maps and globes, physical, mathematical, and political geography, history, Greek and Roman history, general history, and special history of Würtemberg and Germany, agriculture, penmanship, drawing, music, and gymnastics.

Examinations.—The teachers must pass the following examinations: first, the preliminary examination for admission to the preparatory course; second, the examination for admission to the normal course; third, the first examination for office, to obtain appointment as assistant; fourth, the second examination for office, to obtain permanent appointment. To the first examination those candidates are admitted who are at least 15 years of age, of sound health and good character. To pass this examination the candidate must have the accomplishments of a good pupil of an elementary school. The conditions for admission to the teachers' seminary are, age sixteen years, and a certificate of having satisfactorily completed the preparatory course. The candidates are examined in religion, German, arithmetic, natural history, music, penmanship, geometry, and drawing. The first examination for office takes place at the end of the seminary course, and is conducted on the Prussian system. In the second examination for office, to which no one is admitted before he has passed his twenty-second year and before he has been at least two years in active service, the candidate must master the subjects of examination more thoroughly; he must be better acquainted with the science and methods of teaching and discipline, and must possess more extensive knowledge of natural science, history, and geography.

Salaries.—The salaries of teachers range from 800 to 1,800 marks.[1] Most of the teachers receive besides a dwelling and a garden.

Pensions.—The following is a summary of the pension law of 1865: No teacher has a right to a pension. School authorities, however, are authorized to pension a teacher after nine years' service, if the applicant is either 70 years of age or disabled by disease. If a teacher recovers from disease that made him a pensioner, he must be reappointed to a teacher's place where his salary is not less than before. After nine years' service the pension amounts to 40 per cent. of the regular salary. With every additional year of service the pension increases 1¾ per cent. if the salary was less than 2,400 marks, and 1½ per cent. if the salary exceeded that amount.

The government grant to the pension fund in 1876 amounted to 345,300 marks. The number of pensioners was 2,110.

[1] The Prussian mark = 23.8 cents, gold.

OTHER GERMAN STATES.

The systems of training teachers in the other German states differ very little from that in Prussia, where the teachers' seminaries originated. The number of schools, teachers, and pupils in each of the several states reported for 1877 is given below.

Table showing the condition of teachers' seminaries in different German countries in 1877.

Country.	Seminaries.	Teachers.	Students.
Prussia[1]	136	About 700	7,199
Saxony	14	125	1,977
Baden	3	22	356
Hesse-Darmstadt	2	23	255
Mecklenburg-Schwerin	1	17	150
Mecklenburg-Strelitz	1	4	37
Oldenburg	2	15	156
Saxe-Weimar	3	31	423
Anhalt	2	14	106
Saxe-Altenburg	1	5	40
Brunswick	3	16	209
Saxe-Coburg	3	22	182
Saxe-Meiningen	1	12	106
Lippe	2	5	33
Reuss	2	13	171
Schwarzburg-Rudolstadt	1	3	10
Schwarzburg-Sondershausen	1	4	34
Bremen	1	5	30
Hamburg	1	17	96
Alsace-Lorraine	13	72	995

[1] Statistics of 1876.

I.—SECONDARY SCHOOL TEACHERS.

A person who aspires to a teachership in a secondary school is required to go through a nine years' preparatory course and an academic triennium before he is admitted to the professional examination, without which no one is allowed to teach. As the secondary school is not only one of the most important factors in the training of the teacher, but is also his future field of labor, a brief description of this institution will greatly aid in forming a correct idea of the German training system.

DEFINITIONS.

Secondary schools in Germany are for boys from about 9 to 18 years of age, and are commonly styled "higher institutions of learning" Höhere Lehranstalten. They are not a continuation of the primary or elementary schools, but exist independently of them. They are divided into "Gymnasien" and "Progymnasien," "Realschulen" of the first and second order, and "Höhere Bürgerschulen." Their common object is to give the foundation of a general scientific and literary culture, and to develop the moral power of the student. The Gymnasium is at the head of all the secondary schools, and leads directly to the university, while the Realschule leads to the higher technical schools.[1] Both the Gym-

[1] German educators are making great efforts to obtain for graduates of the Realschule the same privileges that those of the Gymnasium enjoy, and some universities have already expressed their willingness to admit the graduates of both institutions to the academic course.

nasium and the Realschule of the first order have a nine years' course; but the Progymnnasium, the Realschule of the second order, and the Höhere Bürgerschule have only a six or seven years' course, and their graduates are not entitled to matriculation in a university.

CLASSIFICATION.

The general division and management of the Gymnasium and the Realschule are alike. Their courses of study extend over nine years. A complete Gymnasium or Realschule has at least six grades. The three lower grades, styled Sexta, Quinta, and Quarta, have a course of one year each; and each of the higher grades, styled Tertia, Secunda, and Prima, is subdivided into two divisions, with a course of one year each The different grades and subdivisions are as follows:

Prima A, (highest grade,) Prima B, Secunda A, Secunda B, Tertia A, Tertia B, Quarta, Quinta, Sexta, (lowest grade.)

The largest number of pupils in one class is fifty in the three lower grades, and, as a rule, thirty in the higher. Each class has one chief teacher, called the "ordinarius" of that class, who gives most of the lessons in it and who is responsible for its discipline.

Each teacher is generally engaged in school from twenty to twenty-five hours, and the director from fourteen to sixteen hours a week.

The Gymnasien are intended for those who desire to study especially the ancient languages and mathematics, and whose aim is to prepare for higher situations in the service of the state or the church. The students pass from the Gymnasium to the university to finish their studies in the different courses they may select.

The Realschulen are intended for those who desire to study the natural sciences, mathematics, and modern languages. The pupils are to become the managers of manufactories, civil engineers, architects, &c. They therefore do not pass to the university, but finish their education in the schools of architecture, engineering, manufactures, commerce, or other higher technical institutions.

The secondary schools are under the special care and control of the provincial school boards (Provinzial Schul-Collegien), composed of the presidents of the provinces and several experienced educators; and there is also a central school board at the capital of each state.

ADMISSION OF PUPILS.

Every candidate for admission to a secondary school must undergo an examination which decides in what class he is to be placed. For entering Sexta (the lowest grade) the pupil must be at least nine years of age, be able to read German, know the parts of speech, write legibly, be able to write from dictation without making bad orthographical mistakes, be well versed in the four fundamental rules of arithmetic, and be thoroughly conversant with the history of the Bible. Higher qualifications are required for entering the higher classes.

If, after a month's time, it becomes evident that a pupil is not yet fit for the class to which he has been assigned, or that he is further advanced than was thought, he may be either put back one class or advanced a step higher.

Quarterly reports of the conduct and diligence of the pupils are sent to the parents or guardians, who examine, sign, and return them to the school. The teachers are thus sure that the parents are well informed in regard to the standing of their children. The quarterly certificates also induce many parents to confer with the director or teachers of the school concerning the conduct, &c., of the pupils.

STUDIES.

In Latin, grammar is taught and applied to the reading of the classics and to written exercises. The following authors are read: Cæsar; Ovid; Livy; Sallust; some of Cicero's orations, epistles, and philosophical writings; Virgil's Æneid; Horace's odes, satires, and epistles; Tacitus's Germania; Juvenal; Terence; Plautus; and Roman literature.

In Greek, grammar is completed and the following authors are read and translated: Xenophon, Homer, Herodotus, Plato, Sophocles, and Greek literature.

Hebrew is obligatory only for those who intend to study theology; it comprises grammar, etymology, and reading.

In German, grammar, etymology, prosody, and literature are taught, and exercises in German composition are continued through all the classes.

In French, the grammar is gone through. German pieces are translated into French, and French authors are read and translated into German and Latin. French composition and letter writing are likewise practised.

Instruction in mathematics comprises the whole of arithmetic, algebra, geometry, planimetry, stereometry, and trigonometry.

General history is taught, as well as the history of the state in which the school is situated, and of Germany, with special regard to social and literary development.

Geographical instruction includes the whole of physical, political, and mathematical geography, with map drawing in all the classes, especially rapid sketches on the blackboard and on slates.

Natural history comprises the general introduction and the elements of mineralogy, botany, and zoölogy.

In physics, the pupils pursue a very exhaustive course of mechanics, electricity, magnetism, light, and heat.

Drawing—free hand, geometrical, and ornamental—is taught in all the classes.

Gymnastics and singing are obligatory throughout the course.

METHODS OF INSTRUCTION.

As to the methods of teaching there is great variety in the different schools, each teacher being allowed to pursue his own plan. The translations from Latin or Greek into German, and vice versa, the grammatical exercises, Latin composition, and essays, the practice in versification, &c., are varied in amount in the different classes, according to the views of the teacher.

The following are some of the themes for essays written by students of secondary schools in 1876–'77:

THEMES IN LATIN.

1. De virtutibus Romanorum ab Horatio laudatis.
2. Parum profici armis si incuriæ sequantur.
3. Ad provincias in officio continendas Romanorum literas artesque non minus quam arma virosque valuisse.
4. *a.* De Britannia in provinciæ formam redacta. *b.* Proprium est humani ingenii odisse quem læseris.
5. Bonos mores plus valere quam bonas leges.
6. *a.* Quæratur, utrum in Germanis an in Britannis virtutis indoles antiquis temporibus major fuerit. *b.* De Germanorum et Romanorum servis.
7. *a.* Homini vitam ad certam rationis normam esse dirigendam. *b.* In libertate defendenda Catoni prudentiam, Ciceroni constantiam defuisse.
8. Nihil gratiæ causa faciendum esse.
9. *a.* Multis parasse divitias non finis miseriarum fuit, sed mutatio. *b.* Omnis dies, omnis hora, quam nihil simus, ostendit et aliquo argumento recenti admonet fragilitatis oblitos, tum æterna meditatos respicere cogit ad mortem. *c.* Prosunt inter se boni.
10. Græcorum philosophia Romam translata omnia literarum genera ad artem redacta esse.
11. *a.* Epaminondas haud scio an summus vir universæ Græciæ fuerit. *b.* Marcus Tullius Cicero civis optimus.
12. *a.* Laudes Q. Fabii Maximi Cunctatoris.
b. De dicto Horatiano (Lib. III, Carm. 4):

Vos Cæsarem altum, militia simul
Fessas cohortes addidit oppidis,
  Finire quærentem labores
    Pierio recreatis antro.
Vos lene consilium et datis et dato
Gaudetis almæ.

13. *a.* Cato in senatu docet Karthaginem esse delendam. *b.* Caius Marius rectene conservator republicæ appeletur.
14. *a.* Triginta viri suum ipsi imperium everterunt. *b.* Explicetur, cur et quo jure Athenienses Socratem capitis damnaverint.
15. Quibus rebus Achillis ira excitata sit.
16. *a.* Mithradates rex populi Romani hostis acerrimus. *b.* App. Claudius Cæcus cum Pyrrho, Epirotarum rege, nisi Italia excedat, pacem faciendam esse negat, (oratio.) *c.* Quibus potissimum virtutibus excellens fuerit Cicero.
17. Laudes Augusti imperatoris.

THEMES IN FRENCH.

1. Grégoire Sept.
2. Mort de César.
3. *Pierre le Grand.*

4. Diète de Worms.
5. Napoléon en Égypte.
6. Guerre pour la succession d'Autriche.
7. Guerre du Nord.
8. Première année de la guerre de sept ans.
9. Guerre pour l'indépendance des États-Unis de l'Amérique du Nord.
10. Charles I, roi d'Angleterre.
11. Le Grand Électeur.
12. Contenu du Cid.

THEMES IN ENGLISH.

1. Wallenstein.
2. Philip of Macedonia.
3. Cardinal Richelieu.
4. The battle of Fehrbellin.
5. Huss and his death at the stake.
6. The invention of the art of printing.
7. The telegraph.
8. Pericles and his age.
9. Rudolph of Hapsburg.

HOME WORK.

The general school regulations provide that at the beginning of each term there shall be a conference of the teachers to determine in detail the due amount of home work for the different classes. Each teacher keeps a book in which all the exercises actually given are accurately noted, so that the director of the school may see at any time how far the decisions of the conference have been regarded. The home work of the pupils must be regularly corrected by the teacher, and the results publicly announced in the class. German and Latin compositions are to receive especial attention.

FINAL EXAMINATION (ABITURIENTENPRÜFUNG).

The students who desire to matriculate at a university must procure the certificate of maturity (Maturitätszeugniss) in the regular final examination, the object being to ascertain whether the candidate has made himself master of the subjects required for successful entrance upon the academic course. The examination must be made in a Gymnasium, and takes place about six weeks before the close of the school year. To be admitted to the examination the pupil must have been two years in the highest grade.

The examining board (Prüfungscommission) consists of the director of the Gymnasium, the teachers of the higher classes, a member of the ecclesiastical authority, and a member of the provincial school board (Provinzial Schul-Collegium), who presides at the examination. Besides these, government commissioners are appointed to be present as inspectors.

The examinations are of two kinds, written and oral. The subjects are religion, history and geography, mathematics, physics, natural history, the German, Latin, Greek, French, English, and Hebrew languages.

The subjects of the written examination are chosen by the royal commission from a list furnished by the director of the Gymnasium. All the candidates receive the same subjects for composition, which are given out at the beginning of the examination. The only books allowed them are dictionaries. The written examinations consist of, first, a German composition, the object of which is to discern the degree of intellectual development and the style of composition of the candidate; second, a Latin extempore exercise (an exercise in which the teacher speaks in German to the pupil, who has to render the German immediately into Latin in writing) and a Latin composition on a subject which has been treated in the course; third, a translation from a Greek author and from Latin into Greek; fourth, a translation from German into French and English; fifth, French and English compositions; sixth, the solution of four or five mathematical problems.

The time allowed for the several written examinations is as follows: For the compositions in Latin, Greek, German, French, and English, from 3 to 4 hours each; for translations, 2 to 3 hours each; for mathematics, 5 hours.

The subjects of the oral examination are the principal epochs of the history of the church and questions upon Christian doctrine, the general grammar and prosody of the German language, the chief epochs of national history and literature, the German classics, oral translations of extracts from Cicero, Sallust, Livy, Virgil, and Horace, translations of Greek prose into German and Latin, and of portions of Homer, with questions upon Greek grammar, Greek history and mythology, translations from French and English classics, arithmetic, the elements of algebra, geometry, the binomial theorem, simple and quadratic equations, logarithms, and trigonometry, general history, Greek, Roman, and German history, physics, geography, natural history.

When the examination is closed, the examining board deliberates upon the notes which have been taken during its course by each member. Those students who have passed a satisfactory examination receive a certificate of maturity, (Maturitätszeugniss;) the others are remanded to their class, and may present themselves, after an interval of six months, for another examination, unless they are deemed entirely incompetent to continue the course. The daily records of the classrooms are presented to the examiners, as showing the progress and conduct of the candidates, and this is specially noted in the certificates.

The certificate of maturity is necessary to enable a youth to be matriculated in a university, to be admitted to the examinations for an academic degree, or to be appointed to office in state or church.

Young persons who have been educated privately, but who wish to enter the university, must apply to the provincial school board for leave to attend one of the examinations. They are required to bring testimonials and a curriculum vitæ, and they are then directed by the school *board to* a Gymnasium where they may be examined.

III.—PROFESSIONAL TRAINING OF TEACHERS.

The foregoing exhibit of the organization and the subjects of study of secondary schools shows what an important work the teacher has to perform, and what a thorough preparation is required of one who desires to enter upon this field of labor. The school authorities are not satisfied to test only the intellectual ability of the graduates of the secondary schools, but they exact a rigorous test of the professional fitness of the future teacher. The candidate, after having finished his studies in a Gymnasium and a university, has to pass a state examination (Staatsprüfung) which is held by an examining committee (wissenschaftliche Prüfungscommission) composed of government representatives and professors of universities. The candidate sends in his certificate of maturity (Maturitätszeugniss), a certificate of a three years' attendance at the university, and a curriculum vitæ. The applications for admission to the Staatsprüfung are ordinarily written in Latin.

The subjects of examination are divided into four classes: first, the ancient languages and German; second, mathematics and natural sciences; third, history and geography; fourth, religion and Hebrew. After a satisfactory examination the candidate must pass a year's trial course (Probejahr) at a secondary school, unless he has attended one of the higher pedagogical seminaries connected with the different universities, in which case this is not required.

The most prominent pedagogic seminaries are those at Berlin, Bonn, Breslau, Halle, Königsberg, and Stettin. Besides these there are several philological and historical seminaries, where the candidates may acquire a more profound knowledge in those branches. The time allowed to lectures on pedagogy in the German universities is as follows: Berlin, 6 hours a week; Bonn, 4; Breslau, 3; Erlangen, 2; Freiburg, 2; Giessen, 2, Göttingen, 4; Greifswald, 3; Halle, 5; Heidelberg, 3; Jena, 6; Kiel, 3; Leipzig, 8; Münster, 4; Tübingen, 3; and Würzburg, 4. The subjects of the lectures are the history of education, scientific principles of education, physical training of the child, school discipline, methods of instruction, school hygiene, school legislation, school architecture, ancient and modern languages, comparative philology, logic, metaphysics, and other branches of instruction which the teacher has to teach in his professional career.

EXAMINATIONS.

There are various kinds of examinations, namely: Pro facultate docendi, pro loco, pro ascensione, and pro rectoratu. The subjects of examination are, first, German, Latin, Greek, French, and Hebrew languages; second, mathematics, natural philosophy, history and geography, philosophy and pedagogy. It is, however, not forbidden to any candidate to be examined in other languages and sciences, to

which he has devoted himself, and which are connected with objects of instruction in secondary schools. A main condition for admission is the complete academic triennium.

In giving the facultas docendi, three degrees are distinguished:

1. The *unconditional*, when the candidate, besides a sufficient, even if not perfectly developed, capacity for teaching, is so far master of the subjects as to be able, after due preparation, to teach Latin, Greek, German, mathematics and natural sciences, history and geography, and Hebrew in one of the higher classes of a Gymnasium successfully, and is so far acquainted with all the other subjects as to be able to appreciate their relative importance to other branches of instruction. As a qualification for teaching philology in the two higher classes there is required, besides a perfect knowledge of Greek and Latin grammar, an extensive acquaintance with the Greek and Latin classics. The examination in German extends to grammar, the particular character and laws of the language, the historical development of the same, and the history of its literature. Those who do not possess knowledge of the German language and literature and general scientific learning enough to teach German successfully in each class cannot receive the unconditional facultas docendi for philology. In history and geography, besides a general knowledge thereof, the study of the principal authors for any period of ancient, middle, or modern history is required. In mathematics, the candidate must prove that he has pursued the higher branches of geometry, spherical analysis, and higher mathematics so far as to be able to make successful application of them to astronomy and natural philosophy. In philosophy and pedagogy, besides an exact knowledge of these sciences and a critical appreciation of the different systems of instruction and education, the candidates are required to explain, in a scientific manner, the principles of logic, metaphysics, and psychology; and, together with a general knowledge of the history of philosophy and of its different systems according to their characteristic peculiarities, they must combine a familiar knowledge of the changes philosophy has undergone since the time of Kant.

2. The *conditional* facultas docendi can be obtained by those who, though they have sufficient knowledge to teach in the two higher classes, yet in one or more branches do not fully meet the requirements.

3. The *conditional* facultas docendi may also be obtained by those who in one or more of the chief subjects of instruction possess only the knowledge required for middle or lower classes.

Candidates who wish to become qualified for teaching French or English, besides a thorough and fundamental knowledge of these languages and their literatures, must respond to the requirements of general education demanded from all candidates.

For teachers of drawing at secondary schools, it is directed that only those shall be appointed who are provided with a certificate of qualification from the higher academies of arts.

Applicants for situations as teachers of gymnastics or music must possess certificates of good moral character and thorough training in those branches.

OTHER REQUIREMENTS.

The following extracts from various state regulations show, among other things, the value placed upon the good character of directors and teachers of secondary schools:

The teacher must, besides his literary attainments, possess also a moral culture which may enable him to serve in every circumstance as an example to his pupils. His highest aim should be to remain faithful to his vocation; to avoid in the instruction of and intercourse with his pupils all that would be calculated in any way to prevent their sound development, all that cannot be conceived or properly appreciated by them, or anything that might exercise a bad influence upon their religious sentiments, of whatever persuasion they may be, or on their ideas of what is noble and good.

The importance of the pedagogic power of man shows its full significance when a question arises as to intrusting the direction of a Gymnasium to the right man. The necessary literary culture in this case is easily found, but it is much more difficult to obtain the proof that the future director not only possesses a just estimate of the relations of life, but is also endowed with proper sentiments and firmness of character, and such a personal appearance as will inspire respect and confidence, so as to command the general esteem of the corps of teachers, and by this and a consistent and steady government, be enabled to train the young in all the sentiments of religion, in love of country, and a conscientious fidelity under all circumstances in life.

In order that the director of a school may enjoy free action in the discharge of his duties, and that the necessary unity may be obtained in his administration and supervision, it is declared that the whole school, with its several classes, its respective officers and pupils, comes under his immediate authority. He shall enjoy in all his public relations, as a representative of a higher institution, all the respect and proper distinction which are due to the position. He is the mediator between the school and the parents, and reports and directs all the transactions of the institution.

No teachers are allowed to refuse to accept or refuse to fulfil any official duties he may see fit to assign them; yet, should they be overburdened, they may refer the case to the provincial school board. In the meetings of the teachers, which the director may call as he thinks proper, the business is conducted by him as president. All pupils are subject to his supervision and discipline. To him are referred all cases provided for by the school laws or whenever objections are made against the course pursued by a teacher. The lower officers and servants of the institution are under his special supervision and control. He has the direction of all classes and departments in his school.

The director shall, as often as opportunity offers, confer with the parents or guardans respecting the progress of the pupils, for which the regular reports will give sufficient occasion. In regard to any serious misdemeanor on the part of the pupils, he must inform their parents or guardians.

The director is bound to acquaint the school authorities with all that concerns the internal and external condition of the school, and in all important circumstances, whether relating to the duties or rights of the faculty, to discipline, or to any particular branch of the institution, he must consult them.

The official labor of the director is to be mainly educational. It therefore requires his presence in school from the beginning of the first lesson in the morning to the close of the last in the afternoon. During the whole time of school he must occupy himself with school affairs only.

The class teachers are to superintend the classes assigned them, and keep complete lists of the conduct, diligence, and progress of their pupils. They are expected to advise the pupils in the purchase of the necessary books of instruction. It is particularly ex-

pected from the teachers that, from time to time, they will visit at their residences those pupils whose parents do not reside in the same place.

Each teacher is obliged, without remuneration, to teach additional hours during a vacancy, except when the position is not again filled for a long time. He cannot accept any office to which pay is attached, nor an office in the civil administration of the city, without the consent of the higher school authorities.

SALARIES AND PENSIONS.

The salaries of secondary school teachers are from 3,000 to 7,000 marks for directors, and from 1,500 to 4,000 marks for teachers. If teachers become incapacitated for duty not by their own fault, they are entitled to a pension during life. The amount is fixed according to the number of years spent in official duties. The families of teachers who die in office receive one quarter's salary at the end of the month in which death occurs; those of pensioned teachers, one month's salary.

APPENDIX.

Statistics of higher burgher schools (Höhere Bürgerschulen) in Prussia.

Province.	Schools.	Teachers.	Pupils.
Prussia	5	38	653
Brandenburg	9	84	1,715
Pomerania	4	30	588
Posen			
Silesia	6	70	1,544
Saxony	6	57	970
Schleswig-Holstein	8	38	683
Hanover	16	102	2,381
Westphalia	8	45	660
Hesse-Nassau	16	201	3,719
Rhine Province	14	131	1,621
Hohenzollern	1	6	42
The Kingdom	93	802	14,576

Statistics of Realschulen of the second order (Realschulen zweiter Ordnung) in Prussia.

Province.	Schools.	Teachers.	Pupils.
Prussia	4	80	1,562
Brandenburg			
Pomerania	1	17	258
Posen			
Silesia			
Saxony	1	21	518
Schleswig-Holstein	3	53	1,136
Hanover			
Westphalia			
Hesse-Nassau	5	92	1,632
Rhine Province	3	49	1,163
Hohenzollern			
The Kingdom	17	312	6,269

Statistics of Realschulen of the first order (Realschulen erster Ordnung) in Prussia.

Province.	Schools.	Teachers.	Pupils.
Prussia	9	152	3,139
Brandenburg	12	256	5,595
Pomerania	4	55	1,318
Posen	4	86	1,717
Silesia	9	163	3,044
Saxony	6	125	3,016
Schleswig-Holstein	2		199
Hanover	9	139	3,334
Westphalia	9	119	1,827
Hesse-Nassau	3	70	1,243
Rhine Province	12	234	3,439
Hohenzollern			
The Kingdom	79	1,399	27,871

Statistics of Progymnasien in Prussia.

Province.	Schools.	Teachers.	Pupils.
Prussia	2	17	257
Brandenburg	2	18	282
Pomerania	2	16	298
Posen	3	27	499
Silesia	1	11	175
Saxony	2	11	210
Schleswig-Holstein	.....	.....	.....
Hanover	1	8	133
Westphalia	3	20	123
Hesse-Nassau	.....	.....	.....
Rhine Province	17	137	1,226
Hohenzollern	.....	.....	.....
The Kingdom	33	265	3,203

Statistics of Gymnasien in Prussia.

Province.	Schools.	Teachers.	Pupils.
Prussia	25	412	7,996
Brandenburg	28	607	11,388
Pomerania	17	278	5,610
Posen	13	218	4,110
Silesia	35	542	10,331
Saxony	24	371	6,738
Schleswig-Holstein	10	156	2,002
Hanover	18	256	4,431
Westphalia	20	283	4,173
Hesse-Nassau	12	196	2,722
Rhine Province	25	411	5,502
Hohenzollern	1	14	132
The Kingdom	228	3,744	65,135

Income of secondary schools in Prussia, (1874, 1875.)

Schools.	Income from —			Total income.
	State subsidies.	Endowments.	School fees and other sources.	
	Marks.[1]	*Marks.*	*Marks.*	*Marks.*
Higher burgher schools	125,823	18,819	1,775,160	1,919,802
Realschulen	286,152	33,432	4,431,213	4,750,797
Progymnasien	91,536	20,613	468,138	580,287
Gymnasien	3,309,807	662,700	9,197,850	13,170,357
Total	3,813,318	735,564	15,872,361	20,421,243

Secondary schools for girls (Höhere Töchterschulen) in Prussia.[2]

Province.	Schools.	Classes.	Teachers.	Pupils.
Prussia	22	140	203	5,485
Brandenburg	49	356	546	11,238
Pomerania	24	125	216	3,518
Posen	13	67	115	1,777
Silesia	21	130	214	3,838
Saxony	22	139	208	4,596
Schleswig-Holstein	3	14	23	394
Hanover	14	92	217	3,452
Westphalia	10	52	73	1,507
Hesse-Nassau	13	102	251	3,788
Rhine Province	24	138	200	3,794
Hohenzollern	.....	.....	.....	.....
The Kingdom	215	1,355	2,266	43,947

[1] *The* Prussian mark = 23.8 cents, gold.

[2] *Secondary schools for girls* do not form part of the public school system, but are under the exclusive *control of municipalities* or private individuals.

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No. 2—1878.

ELEMENTARY EDUCATION IN LONDON.

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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., October 30, 1878.

SIR: It is well known that when the education act of 1870 was adopted by the British Parliament many entertained serious fears with regard to its execution in London.

England up to that date, in the great metropolis as elsewhere, had relied upon the schools of the church for the sufficient education of the young or on endowed schools and other voluntary educational agencies; these being supplemented or aided by grants from the public purse.

Charities in the metropolis were so numerous that the mere catalogue of them alone made a book of two hundred pages; a great many of these charities were devoted to the care or education of the young.

Notwithstanding these numerous and very creditable endeavors, a great increase of those evils specially traceable to the neglect of education was remarked.

The results of the introduction and administration of the law above mentioned are now manifest for the examination of scholars and statesmen. They may be studied in detail in the voluminous reports of the proceedings of the London school board, the sixth volume of which fills 2,200 imperial octavo pages. But Sir Charles Reed, chairman of the London board, recently summarized the facts noted in this great educational experiment in the world's largest city so briefly and in language so simple as to make his statement of peculiar value to the numerous members of municipal school boards in this country. The lessons his words contain are specially pertinent at this time, when efforts are being made in various places to lower our educational methods and plans to the condition in which the London school board found those of that city when it undertook its great responsibilities.

I therefore submit this address, with a few explanatory notes, for publication.

I have the honor to be, very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

Hon. C. SCHURZ,
Secretary of the Interior.

Approved and publication ordered.

C. SCHURZ,
Secretary.

ELEMENTARY EDUCATION IN LONDON.

The last seven years have witnessed a wonderful change in the educational affairs of Great Britain, especially of London and the other large cities. During this time the great metropolis has placed public education on a firm and substantial foundation. Of all the school boards created under the education act of 1870, that of London had the heaviest task imposed upon it, and it is one of those which have accomplished the most. Nothing can be clearer or more forcible than the plain statement of facts and figures presented in the interesting annual address of Sir Charles Reed, the indefatigable president of the London school board. There are already 278 board schools in London, with accommodation for 192,000 children, and when the present plans are completed there will be accommodation in board schools for 240,000 children. It is due to the energetic efforts of the school board that London is able to report in the year 1878 an average daily attendance in all efficient elementary schools of 339,344 pupils, against 174,301 in 1871, a growth of 94.6 per cent. This favorable result in so short a period suggests inquiry into the organization of the school board, its powers, and its plan of operation.

The basis of the present system is the elementary education act of 1870, which says that "there shall be provided for every school district a sufficient amount of accommodation in public elementary schools available for all the children resident in such district for whose elementary education efficient and suitable provision is not otherwise made." The new schools are placed in each district under school boards invested with great powers, among others that of compelling all parents to give their children between the ages of 5 and 13 the advantages of an elementary education.

In pursuance of this act the first school board for London was elected November 29, 1870. It contained many eminent members, among them Professor Huxley. The number of school districts is 10, which are represented in the board by 49 members[1] elected every three years by ballot as required by law. The first chairman of the board was elected December 15, 1870. On December 19 of the same year, the education department directed the board to procure returns of all the elementary schools within the district of the metropolis. These returns were forwarded to the department within four months. On April 20, 1871, the board received instructions to report on the number of children within the limits of its jurisdiction for whom elementary education should be

[1] A few of the members are women.

provided. As the general census of the United Kingdom had just been taken, it was easy to determine the absolute number of children between the ages of 3 and 13. But a more difficult problem was presented as soon as it became necessary to ascertain the number of children contemplated in the act. A staff of enumerators and a superintendent were appointed in each of the ten divisions of the metropolis. As a general rule the enumerators made their inquiries verbally as they called from house to house. The work of tabulation was at once proceeded with. The board subdivided the different school divisions into compact blocks. Each of the divisional committees was then requested to subdivide its division in accordance with a regular plan, and the result of this is shown in the much admired maps published by the board. The streets and alleys within a given subdivision were now arranged in due order, and the exact number of families noted. The children were then divided into those who attend and those who should attend, and the causes of absence were carefully ascertained.

The following is the result of this gigantic work: The population of London April 2, 1871, according to the school board enumeration, was 3,265,005. The number of children between 3 and 13 was 681,101, of whom 97,307 were educated at home or in schools, and 9,101 were inmates of various institutions. The number of children requiring elementary schools was 574,693, of whom 398,679 were attending and 176,014 for various causes were not attending school.

The first duty of the board was now to provide suitable school accommodation for the vast number of children outside of school. How successfully this has been done will be seen in the statement of Sir Charles Reed, herewith presented. The internal organization of the board schools has improved steadily and systematically from year to year. The board has availed itself of the power given it in section 74 of the education act, which says that any school board may require "the parents of children of such age, not less than five years nor more than thirteen years, as may be fixed by the by-laws, to cause such children (unless there is some reasonable excuse) to attend school," and may "impose penalties for the breach of any by-laws." The text of the by-laws relating to compulsory attendance in London board schools is as follows:

§ 2. The parent of every child of not less than five years nor more than thirteen years of age is required to cause such child to attend school, unless there be some reasonable excuse for non-attendance.

§ 3. Except as hereinafter provided, the time such child is required to attend school is the whole time for which the school selected shall be opened for the instruction of children, not being less than twenty-five hours a week. * * *

§ 7. Every parent who shall not observe or shall neglect or violate these by-laws shall upon conviction be liable to a penalty not exceeding 5s., including costs, for each offence.

According to the reports, the above provisions in regard to compulsion are rigorously enforced. Sir Charles Reed says: "Without this

agency [compulsion] we should lose all trace of thousands of the very children it is our duty to gather into school."

The London school board divides the subjects of instruction into "essential" and "discretionary." The former for junior and senior schools are the Bible and the principles of religion and morality,[1] reading, writing, and arithmetic, English grammar and composition, and the principles of book-keeping in senior schools, with mensuration in senior boys' schools; systematized object lessons, embracing elementary instruction in physical science, history of England, elementary geography, elementary social economy, elementary drawing, music and drill. In girls' schools, plain needlework and cutting out are added. The discretionary branches are domestic economy, algebra, and geometry.

For infant schools, instruction must be given in the Bible and the principles of religion and morality, reading, writing, and arithmetic, object lessons of a simple character, singing, physical exercises, and sewing.

One or more mistresses in every girls' school must be competent to teach cookery. The school management committee says in regard to this instruction:

The number of pupils in the different cookery classes, March 25, 1878, was as follows:

Sleaford street centre	46
Chalton street centre	50
Blackheath road centre	42
Cambridge Heath road centre	63
Total	201

A great number of applicants had to be refused on account of want of space. The teachers' interest in cookery has steadily increased, and many of them have expressed a great wish to teach it in their schools.

In every department of a school there must be at least one teacher with a full drawing certificate. Two hours a week in all boys' schools and one and a half hours a week in every girls' school must be devoted to drawing. Drill is taught in every school during the regular school hours, and it is expected that every head teacher will be competent to give this instruction.

The London school board regards with great favor the effort to make swimming lessons a part of the course in physical training in the schools under its control. The many recent accidents on water have given a new impetus to this important movement. Hitherto the London Swimming Club has taught the art to a large number of children of the board schools. The number of pupils and teachers who have already learned to swim is 7,577.

The board has greatly stimulated a spirit of temperance and thrift

[1] This religious instruction, however, is to be given either before or after (or before and after) the regular session of the school, and any child may be withdrawn during its continuance; if withdrawn, the child must receive instruction in secular subjects during that time.

among the children by furnishing lectures on this subject and by giving facility for the deposit of money with the National Penny Savings Bank. The number of depositors in 1877 was 9,601, and the amount deposited by forty schools was 3,112*l.* 1*s.* 10*d.*

The board also takes care of the deaf-mute and blind children within its jurisdiction. The number of institutions for these unfortunates is five and the number of inmates 134.

ADDRESS OF SIR CHARLES REED.

The first meeting of the London school board after the autumnal recess was held on Wednesday, October 2, 1878, Sir Charles Reed, chairman, presiding. The chairman said:

I again avail myself of the opportunity afforded by our reassembling after the recess to present a brief review of the work of the board for the past year, mainly for the information of our fellow citizens, whose representatives we are and at whose expense, in chief part, the education of the poorer children of the metropolis is carried on. They may justly desire to be satisfied on the following points: 1. That school accommodation is sufficient, but not excessive; 2. That the proper class of children is found in our schools, and that their attendance is regular; 3. That the teaching staff is adequate; 4. That the education given is plain, yet thorough; and, under each head, that the results have been attained at a reasonable cost.

SCHOOL ACCOMMODATION.

At the present time the board has under its control 278 schools, with 704 departments; of these, 187 are permanent schools, 43 are held in temporary buildings, and 48 have been transferred to the board. These schools give accommodation for 192,000 children. This is an increase upon my last report of 36 schools, 112 departments, and 29,092 places.

Till recently we have followed our enumeration of 1871, which showed the number of children in the metropolis requiring elementary education to be 574,693. This year we have for greater accuracy rescheduled the various districts, and estimate the number at 614,857. These figures, however, are subject to correction, and are probably considerably below the real number. Of these, the voluntary schools provided at midsummer last for 278,923 and the board for 186,468, so that the entire provision at that time amounted to 465,391 school places. When we have completed works now in progress we shall have raised our share of the supply to 240,000, thus securing a total provision for 518,000 children. Meantime it is a solid gain that London has 203,132 efficient school places more than it had seven years ago, the increase being 77.4 per cent.

While in 46 cases during the past twelve months we have had to enlarge schools, in no instance has the migration of the people left us with excessive accommodation; a fact that speaks well for the care with which the sites have been selected and the moderation with which requirements have been estimated. The cost of sites has of course de-

pended on whether they were purchased in advance of general building or whether the ground had to be cleared of houses. Sites and buildings together have averaged 15*l.* 4*s.* per child, a cost which the Education Department recently informed one of the vestries it could not regard as excessive. The buildings are well adapted for their purpose, although, for the sake of economy, constructed in several stories. One of Her Majesty's inspectors says: "I did not realize how defective the lighting of many voluntary schools was until I came to compare them with the airy, brightly lit chambers of the board schools. This has led to the improvement of the light in several voluntary schools."

CLASS OF CHILDREN AND ATTENDANCE.

It is often asserted that we are educating children who ought to be in schools of a higher grade, whereas a reference to the occupations of the parents of our scholars and their inability in most cases to pay higher fees would prove that the great bulk of our children are of the class for whose benefit the board was established. The attendance shows an improvement on previous years. The average number on the roll for the half year ending at midsummer was 192,425, and the average daily attendance 153,819, or 79.9 per cent., the percentage of the voluntary schools of the metropolis for the same period being 77.5.

Taking the first quarter of the year, which is generally the best, we find in the board schools a steady advance. Thus in 1874 the daily average attendance was 70.1; in 1875, 72.7; in 1876, 78.3; in 1877, 80.1; and in 1878, 81.1. Mr. Stokes, Her Majesty's inspector for the Southwark district, says: "Costly as the provision of new board schools may be deemed, justification is found in the large and ready attendance of children. In nearly all cases the new schools have been filled with children quite as speedily as is desirable. And where temporary schools have acted as preparatory feeders for the permanent schools, a full attendance has been secured from the day of opening." At the same time we are far from regarding the present rate of attendance as a goal at which we can rest satisfied; for, while numbers of our children are models of regularity, there are many who cannot be got to school more than two or three times a week. One of our own inspectors says: "I believe one of the hardest problems the board has before it is to get each child to attend regularly in the same school, for at present I fear that very many of the Arabs of the street become only Arabs of the schools." Another speaks more hopefully: "Very few of the scholars now lose the scripture lesson through unpunctuality." In fact, in many schools it commences now at 9.5 instead of 9.15, as allowed by the rules of the board.

This attendance is secured in various ways. The board makes its masters and mistresses responsible for the regularity of their pupils and has empowered them, as an experiment, to send elder scholars to look up absentees. Where parents appreciate the advantages enjoyed by

their children they take an interest in their attendance and send them punctually to school. At the same time the number of apathetic and neglectful parents is such as to render most necessary the labors of our 11 superintendents and 208 visitors, who form our machinery for applying that compulsion in favor of which the country has declared. Addressing ourselves to all but those who have earned by proficiency certificates of exemption and those who have been absent with sufficient cause, these visitors procure the information on which the board proceeds. A caution to parents was issued in the first half of this year to 32,529 parents, with the effect of securing the improved attendance of 24,497 children. A further notice requiring parents to attend divisional committees and explain was issued in 22,738 cases, and in 18,046 of those with good result. The number of summonses we were compelled to take out was 3,705; in 2,340 instances a small fine was imposed; three charges only were dismissed out of the whole number; the rest were dealt with by reference to factory inspectors, industrial schools committees, and other authorities. For the illegitimate employment of children we were called on to serve 183 notices upon employers, or parents as employers. Of these, 153 were complied with and 21 had to be followed up by a summons; in every case the action of the board was sustained by the magistrates. It will be a matter for the early consideration of the by-laws committee what steps should be taken in order to carry out the provisions of the canal boats act, section 6 of which charges the local authority of the place to which they are registered as belonging with seeing that the children on board these boats are being educated.

The process of enforcing the compulsory by-laws is very costly, but it should be remembered that, while the whole expense falls upon the board, the voluntary schools share equally with our own in the benefit. Yet without an agency of the kind described we should lose all trace of thousands of the very children it is our duty to gather into school. Certainly without it we should not be able to report the daily average attendance at all efficient elementary schools in London as increased from the 174,301 of 1871 to the 339,344 of the present year, a growth of 94.6 per cent.

The introduction by the department of the Child's School Book is of undoubted advantage in providing a record of the school life of each child, but considerable expense and labor have been involved in procuring the required certificate of age. Under section 26 of the new act the board was empowered to obtain from the registrars returns of all births in their districts for the current year, but not for previous years; the consequence being that the board was not in a position to obtain these returns, and decided that it must be left to parents to furnish the certificates. This course, however, was found to be beset by many difficulties; and in the end the department has yielded to the representations of the principal school boards in the country, and now permits the

local authority to dispense, if it thinks fit, with the regular certificate of age, and direct a simple entry of age to be made in the School Book by their clerk, or some other specially deputed person. We have therefore deputed to this office our head teachers, and requested the managers of voluntary schools to nominate their hea d teachers for formal appointment by the board. The clerical work involved in making these entries, and still more in filling up the returns of attendance and examinations required by the department, is in some danger of interfering with the efficiency of our best officers, and reducing them to be superintendents, instead of active and sympathetic teac hers. As one has said, "Superintendence is a good thing, but school *mastery* is a better." Upon the returns just referred to, honor certificates are awarded by government to children under 11 years of age who have passed in standards 4, 5, and 6, and made full attendance at the same school for two years.[1] In these cases the department pays (under certain conditions) the fees for three years. Three hundred and five of our scholars have gained these certificates during the past year.

The rewards offered by the board are simply for attendance, and are given to children who attend punctually on every occasion on which their respective schools are open. Such children receive a card at the end of the quarter, and two cards entitle the holder to a book of the value of from one to three shillings. During the first quarter of this year 27,366 cards were earned in this way and 11,542 books. Though as yet we have given only books as prizes, it appears from the recent reply of the local government board in the Over case that it would be prepared to take a liberal view, should we at any time feel it desirable to offer prizes in another form. While speaking of prizes, I may add

[1] The "standards" or grades here referred to are those prescribed by the general education act of 1870. They are as follows:

STANDARD 1.—*Reading:* A short paragraph from a book used in the school, not confined to words of one syllable. *Writing:* Copy in manuscript character a line of print, and write from dictation a few common words. *Arithmetic:* Simple addition and subtraction of numbers of not more than four figures, and the multiplication table to six times twelve.

STANDARD 2.—*Reading:* A short paragraph from an elementary reading book. *Writing:* A sentence from the same book, slowly read once, and then dictated in single words. *Arithmetic:* Subtraction, multiplication, and short division.

STANDARD 3.—*Reading:* A short paragraph from a more advanced reading book. *Writing:* A sentence slowly dictated once by a few words at a time from the same book. *Arithmetic:* Long division and compound rules (money).

STANDARD 4.—*Reading:* A few lines of poetry selected by the inspector. *Writing:* A sentence slowly dictated once by a few words at a time from a reading book. *Arithmetic:* Compound rules (common weights and measures).

STANDARD 5.—*Reading:* A short ordinary paragraph in a newspaper or other modern narrative. *Writing:* A short paragraph in a newspaper, or ten lines of verse slowly dictated once by a few words at a time. *Arithmetic:* Practice and bills of parcels.

STANDARD 6.—*Reading:* To read with fluency and expression. *Writing:* A short theme or letter, or an easy paraphrase. *Arithmetic:* Proportion and fractions, vulgar and decimal.

that a special diploma of honor has been awarded to the board by the jury on education at the Paris Exhibition in consideration of the excellence of its work. Particular regard was paid to the success that has attended our efforts for securing the attendance of children, and the example of London in this respect seems likely to be followed in France.

SCHOOL FEES.

As regards fees, the amount received in our schools during the year ending Lady-day last was 55,813*l.* 1*s.* 6*d.* We have at present 45,933 school places at 1*d.* a week, 91,191 at 2*d.*, 36,335 at 3*d.*, 8,225 at 4*d.*, 2,859 at 6*d.*, and 87 at 9*d.*, being an average of $2\frac{1}{10}d$. Where it is found that the position of the parents will permit, the fees are being gradually raised, as the above figures will show when compared with those I gave a year ago; in several instances this has been done at the suggestion of Her Majesty's inspectors. At the same time even the lowest fee is beyond the ability of some, and during the year that ended at midsummer fees were remitted in 3,219 cases, and remission renewed in 2,355 more.

THE TEACHING STAFF.

At Lady-day we had in our schools 2,378 adult teachers, of whom 406 held first class certificates and 1,283 second class. These were exclusive of 1,479 pupil teachers and 272 candidates. The relation of these figures to those of the previous year is shown thus:

Quarter ended—	Adult teachers.		Pupil teachers.		Candidates.	
	Male.	Female.	Male.	Female.	Male.	Female.
March, 1878	885	1,493	417	1,062	82	190
March, 1877	647	1,038	445	1,095	71	222
	238 Increase.	455 Increase.	28 Decrease.	33 Decrease.	11 Increase.	32 Decrease.

The increase in adult teachers is accounted for by the greater power required to instruct the advancing numbers of the children. As an example of the staff we employ, I may instance a large school which has been under my own frequent inspection and which earns us a yearly grant of over 1,000*l.* The scholars on the roll are 1,782, of whom there is a daily average attendance of 1,467, or 467 boys, 374 girls, and 626 infants. These are taught by 3 masters and 4 male pupil teachers, 5 mistresses, 2 female ex-pupil teachers, and 5 female pupil teachers; that is, 19 teachers in all—surely no excessive allowance. In the appointment of teachers regard is had to the recommendation of the local managers and to any claim which may arise from good service previously rendered under the board. One of our inspectors says: "During the

past half year 27 masters have been appointed in my district; of these no less than 18 were assistants in the employment of the board. This is a good proportion, and shows that the interests and claims of assistants are not overlooked. Every one of these appointments has, so far, worked well." It will be one of our first duties this autumn to consider a scheme for revising the scale of salaries of our teachers. While, on the one hand, we shall do well to provide for the more regular promotion of deserving teachers, and the retention in "schools of special difficulty" of those who are meeting those difficulties successfully, we shall bear in mind that no profession has of late years been so rapidly advanced as that of the elementary school teacher, and that a due proportion must be observed between the payment that can be earned in it and in other professions where onerous and intelligent service has to be rendered.

CHARACTER OF THE EDUCATION.

The question has frequently been put at the opening of new schools whether we were not giving an education in advance of our duty and equal to that which might be expected in secondary schools. In answer to this it may be said that the instruction in secondary schools is often far below the mark; and, further, that the great majority of our children are busy over the simple rudiments of learning, as is seen from the fact that at the close of last year 41.5 were in the 1st standard, 25.8 in the 2d, 16.1 in the 3d, and 16.6 in 4th, 5th, and 6th. Mr. Alderson, Her Majesty's inspector, says of the Marylebone district: "A marked feature in school board instruction in its present stage is its limited range. It will be a surprise to many who have credited the London school board with an over-ambitious programme to learn that *elementary school work, nicely executed*, is at present the characteristic 'note' of their operations." Indeed, I fear the charge of backwardness in standard work might rather be brought against us, seeing the proportion of children we present in the three upper standards is but one in six. The same gentleman, however, does us only justice when he adds: "It may well be impossible for a newly opened school, recruited from the streets, to present a fourth of its scholars, or even any at all, in the three higher standards." It is encouraging to know that the upper standards are rapidly increasing, and to believe that our next report will show a marked improvement under this head.

The committee of council on education fix a certain age for each standard, expecting a child of 8 to be presented in the 2d standard, one of 9 in the 3d standard, and so on; but some consideration must be had for the circumstances of the scholars, it not being likely that a child from a degraded and half-starved family will attain a given degree of proficiency as early as the lad of an intelligent and prosperous mechanic.

The subjects taught in our schools are classified as essential and discretionary, or, according to the division of the code, standard, class, and specific. In standard subjects the percentage of passes last year in

reading was 87, in writing 84, and in arithmetic 79.1. This compares favorably with the percentages for the entire country, which are given as 85.78 for reading, 78.99 for writing, and 69.97 for arithmetic. Mr. Renouf, Her Majesty's inspector, gives in his report a list of unsuccessful schools in the Tower Hamlets, where a percentage of passes falls below 60, and adds: "No board school is found among these. The board schools are conspicuous in the list of those whose percentage reaches 90."

As is well known, Bible instruction with simple religious exercises forms a part of the daily programme in each school; but as the government inspection does not extend to this subject, our judgment of results has to be formed upon our own annual examination. In distributing the prizes this year at the Crystal Palace I took occasion to say—and the vice president of the Privy Council subsequently quoted it in Parliament as a remarkable fact—that the number of children who voluntarily entered the competition this year was 104,909, against 82,062 in 1877. Besides these, 1,403 pupil teachers submitted themselves to examination. While many of their answers are reported to us as having been superficial and betraying a want of thinking power, some were extremely good. Thus, whereas some even of the pupil teachers could find in the parable of the good Samaritan no further lesson than that we should be "kind to people," a boy in the 6th standard summed up the lessons to be gathered in these words: "We learn (1) that those whom we may count as our enemies are often our best friends; (2) that we should love our enemies; (3) that a good action is its own reward: no doubt if a crowd of people had been near, the priest or the Levite would have given help in order to have received the praise of men."

A still better evidence of the comprehension of this parable was given in a collection spontaneously made in a number of our schools for the Indian famine relief fund, when a sum of 435*l.* was sent up from children in 476 departments, the coins in the boxes being almost exclusively halfpence and farthings. While the board would properly discourage systematic appeals to their scholars, the goodwill in this case was so manifest as to make it seem a legitimate part of educational training to allow it to find vent; and I therefore consented to act as treasurer of the fund. One master says: "Not feeling myself justified in opening a subscription list, lest my children might feel constrained by mere emulation to give money which could ill be spared at home, I placed a box at the stair head, and simply allowed the boys to pay in whatever they chose. From the weight of the box I gather that about a pound has been collected, but I forward it unopened." The amount was found to be 2*l.* 10*s.* Another writes: "I wish you had seen the triumphant air of satisfaction with which a black boy of seven years of age gave me a halfpenny. 'That's for 'em,' he said, and seemed to think that want would be known no more."

Singing is taught universally with good results, both as regards the ability to read music and the quality of voice. We have also reaffirmed our decision to teach drawing to all our pupils, from a conviction of its great value in every branch of industry. Our annual exhibition of drawings of pupil teachers and scholars has had a stimulating influence on this department of school work. The class subjects required by the code are grammar, history, elementary geography, and (in girls' departments) plain needlework. The introduction of these subjects is stated on all hands to have acted beneficially on the ordinary school course in increasing the intelligence of the children and raising the percentage of passes in standard subjects. How, indeed, can it be other than useful for a child to be able to parse a simple sentence, to know something about the history of his country, and gain some idea of the places about which he reads? The need there is of instruction in the last, at least, of these subjects is illustrated by the remark of an inspector on a "very good girls' school." "It would be well, however, to give the girls some idea of geography, as even in the fifth and sixth standards most of them could not tell me what river flows through London, what country they live in, or the name of any other town in the world." Complaints occasionally reach us that the class subjects are too superficially handled, and it might be well to imitate more closely the interesting and vivid method of teaching adopted in many of the American and German schools. Of the instruction in history in particular, it must be said that it is given in few schools, and, when given, is too often a dry matter of dates and dynasties and battles, instead of the broader view of the growth and progress of our country.

Needlework is a subject which has too long been neglected in the school. Comparatively few domestic servants can darn or mend neatly, or cut out and make their own clothing; while mothers are really capable of properly instructing their daughters in this most useful art. The best inspectors confess to their inability to dispense with "woman's judgment on woman's work;" and it must be a satisfaction to the board to feel that it has had the advantage from the beginning of employing the services of two qualified ladies who are charged with the oversight of this department.

The specific subjects recognized by the code occupy but few of our children, as appears from the small amount of grant earned. Thus, upon the examination of fifty of our schools from January to March last, the grant for standard subjects was 5,755*l.*, for class subjects 2,788*l.* 16*s.*, and for specific subjects only 344*l.* 16*s.* In cases where scholars have reached the fourth standard, and are not withdrawn by their parents, they must proceed, if the board is to earn the government grant, to these specific subjects. Here they will not advance any alarming distance if they get a hundred lines of poetry by heart, though that be called *lit*erature, or acquire a knowledge of the structure of the human body, though that be dignified by the title of physiology. This last subject

is one that is very popular with the children because it is usually well taught, the teachers having at command excellent diagrams and models. Physical geography suffers in many of the schools from no proper idea being given to the children of the way in which the great forces of nature work; and this lack is still more observable in the treatment of domestic economy. Few will grudge a girl some knowledge of this subject, which is simply "food and its preparation, the warming, cleaning, and ventilating of a dwelling, or the rules of health and the management of a sick room, cottage income, expenditure, and savings." The board encourages this subject, and hopes thereby to check those habits of waste which so often impoverish the family of the artisan. The same aim has led us to give instruction in cookery to our mistresses and senior girls. Under the scheme recently adopted by the board, the girls in schools where domestic economy is taken will receive their preparatory lessons from their own teachers, taking a subsequent course in practical cookery at centres in kitchens fitted with the ordinary appliances of a workingman's home.

Thus all the instruction given in our schools is designed to bear distinctly upon the future wellbeing of the children, and to make them, so far as the elementary school can accomplish such a result, honest, intelligent, God-fearing citizens. And when it is asked how far we are prepared to go and by what principles we mean to limit ourselves, our answer is that we shall go no further than the code allows and limit ourselves by what seems essential to the elementary training of the young. It is our business not to initiate, but loyally to follow out the lines prescribed by Parliament. Any subject that can be considered extra is specially paid for as such.

Great improvements have been effected in the infants' departments; and the introduction of the first standard for the elder children, where owing to want of room they cannot be passed forward to the main school, insures their being better prepared when they are able to enter it. The Kindergarten system[1] is coming to be better understood by the teachers, one of our inspectors saying: "Perhaps the most marked advance during the year is shown in the more intelligent method of teaching adopted in the infants' schools. I attribute this very much to a better understanding of the principles of the Kindergarten; the best infant schools are those where the *spirit* of the Kindergarten has been infused into the whole teaching of the schools."

PHYSICAL CULTURE.

In the eager discussion of educational questions, it might seem that the physical condition of the young was lost sight of; but it would be

[1] Not the English infant school system, but the system founded by Friedrich Frœbel, the system of playful occupation, designed to precede all other elementary training and to prepare the child for regular instruction by exercising all its powers so as to render it self-active.

a mistake to suppose that the board regarded this as a secondary consideration. The constant ventilation of school and class rooms, the ample supply of pure water for drinking, the adaptation of desks and seats, the periods of recreation, the covered and open playgrounds, the drill and gymnastic apparatus, all bear witness to this care; while the recommendation that some of the playgrounds should be made available under certain conditions for children not belonging to the schools, is a strong proof of our desire to make as many as possible sharers of the advantage. We have no reason for thinking that our children are overtaxed by the work of the school or their home lessons; there is greater danger of the strain telling upon pupil teachers, who, in addition to the instruction they give, have to prepare themselves for examinations.

It has been pleasant, year by year, to report the results of the praiseworthy efforts of the London Schools Swimming Club, an institution deserving generous support. It is not in the power of the board to contribute to its funds, but we reap great advantage from its activity in securing in our public parks and baths places where swimming can be taught. Attention having been recently called to the great importance of this art, it may be of interest to state that this club has, without a penny of cost to the ratepayers, taught 7,577 children and teachers how to swim, and that this season there were enrolled 1,600 children, 105 being girls, and 120 female teachers. It need hardly be said that the suggestion that we should erect swimming baths in connection with our largest schools would carry us far beyond the line of our duty; but it may be hoped that some encouragement may be given by government to this branch of physical training.

The interest taken by the board in the scholars is further shown by instruction being given by approved lectures in the advantages of temperance and thrift. Though we have established no savings bank of our own, we have given facility for the deposit of money with the National Penny Savings Bank; and, taking forty schools in various parts of London, the number of depositors in 1877 was 9,601; the amount deposited, 3,112*l.* 1*s.* 10*d.*

It has been the work of a committee during the past year to select with great care books for the libraries which are now connected with every school. These are different in each case, and are passed on every six months from school to school and centre to centre through our ten districts, so that a constant and fresh supply of healthy reading is supplied for the use of the elder children.

DISCIPLINE.

It is satisfactory to be assured on all hands, not only by those who take part in the work of the board, but from the testimony of those outside, that the tone and discipline of the children in school are good, and that their behavior in the playground and in the street is perceptibly

improved. The recent discussions on the question of punishment make it important for me to note that our inspectors report corporal punishment as being extremely rare. "It is very gratifying," says one, "to be in a position to state that corporal punishment has been actually abolished in 28 departments in my district; in fact, it has been practically abolished in the great majority of girls' and infants' schools. It ought to be known that the head teacher alone has the power to inflict it, and that every case is reported to the board," and he gives it as his experience that the abolition of corporal punishment generally means the improvement of the character of both tone and discipline.

SCHOLARSHIPS.

With increasing numbers, we greatly lack those rewards in the shape of scholarships which enable parents to continue to promising children the great benefit of advanced instruction. These can be supplied only by private munificence. Within the last year we have received 4 additional scholarships, of which I feel bound to mention 2 from the Drapers' Company,[1] besides 9 already given by that body; making in all 43 scholarships, of which 13 are for girls and the rest for boys. It will thus be seen that we have done our part toward opening the way for girls to secure the honors to which by merit they may be fairly entitled. In the case of our first boy scholar, who is now passing through the City of London School with the utmost distinction, we have an instance of the incalculable advantage such aid may be to those who, in humble life, are endowed with great natural ability. The promise, on the part of the government, of a commission to inquire into and report upon the parochial charities of the metropolis affords a prospect of future help in this direction, though not so speedy as to hinder private benevolence.

Separate provision has to be made for special classes. Thus, half time scholars are received and taught in two convenient centres, and with marked success, as is seen by the high attendance recorded. In Bethnal-green, out of 470 on the roll 436 are in average daily attendance, and in Stepney 130 out of 150. It is proposed to open a similar school in Southwark.

DEAF AND DUMB CHILDREN.

Of deaf and dumb children we have an attendance of 134 at four centres, and a fifth is about to be added. These are taught for the most part upon the oral system, but the board is carefully observing the results of experiments in this and the more familiar system of signs. The same may be said with regard to the instruction of the blind, some forty of whom are at present under the care of a special teacher.

VAGRANTS AND NAUTICAL TRAINING.

It is not, however, the blind or dumb who give us the greatest care, but the vagrant class. It is perhaps vain to hope for a much larger

[1] An association of drapers, founded in the year 1735. This company is widely known for its liberality in supporting its own needy members, and for its large contributions to educational purposes.

measure of success in dealing with this class so long as the dwellings of the poor remain what they are. Our visitors have to work daily in places of which it has been said that "an army of apostles would be beaten by the ordinary conditions of life in these back slums." Yet these men and women have succeeded in scheduling the houses and drawing the children to school, but only to have to return day after day to these "lazar houses of modern life." It can, however, no longer be said that the streets of London are infested by large numbers of "children for whom nobody cares, until they commit crime and become an active danger to the community." The names of all are known to our officers and registered by them, and their training in the arts of crime is successfully hindered. The children of prisoners under sentence, who are generally illegitimate, are at once dealt with and placed beyond the reach of evil associates, in schools of industry, where they are fitted for honest work and a virtuous course of life. The returns of the industrial schools[1] in England and Wales show that of the boys who are rescued 82 per cent. do well and 81 of the girls; while 4 per cent. of boys and 10 of girls are doubtful. Our own returns are somewhat more favorable. We have taken off the streets up to midsummer last 8,508 homeless and destitute, orphan, and lawless children. Of these 1,038 have been restored to friends or put into situations, while 4,162 have been sent to industrial schools and training ships, the rest being referred for supervision to various local officers; in a few cases the magistrates have been obliged to discharge children, owing to the lack of vacancies in industrial schools at the disposal of the board. Our school at Brentwood is quite full with 104 boys, who remain, as a general rule, up to the age of sixteen; while on board the Shaftesbury and other training ships round the coast are 449 boys who are not treated as criminals, but trained like children of happier antecedents; their condition being the subject of periodical inspection. In addition to these, there are 293 children who have been sent to sea or otherwise provided for. A question was asked at the close of the session in the House of Lords which makes it necessary for me to explain that in purchasing a training ship we acted under powers given us in working the industrial schools act, and that our reasons for procuring a vessel of our own were the great distances to which children had to be sent when they were distributed in ships all round the coast, the difficulty of exercising due control and inspection, and the costliness of the plan. Hence, the admiralty having been unable to grant us the loan of a vessel, the Nubia was purchased from the Peninsular and Oriental Company, named by resolution of the board the Shaftesbury; and now, after being properly fitted for 350 boys, she

[1] In England the name "industrial school" is usually restricted to a school or training ship for neglected children, and for those whose insubordination or other bad habits the school managers have reason to believe may be cured by a few weeks or months of firm and humane discipline. The training in manual labor or industrial pursuits constitutes a prominent feature of the plan of instruction of these institutions.

lies in her moorings off Grays. If it be urged that the cost of a three years' training in an industrial school or on board ship is great, we have two replies: (1) that to leave these children to grow up in crime would cost the country ten times as much; and (2) that, with a view to reduce the outlay where possible, we have sought to provide a special school for truants and unmanageable boys. For this purpose we have had prepared, with the sanction of the government, a school at Homerton, designed to meet the case of lads, chiefly fatherless, whose insubordination we had reason to believe might be cured by a few weeks of firm and humane discipline, thereby avoiding the needless expense of sending them to an industrial school for a term of years. Technical objections, however, having been raised, an application is now before the home secretary to certify it as an ordinary industrial school; it being understood that it is to be reserved for cases arising under section 12 of the new act.

DECREASE IN JUVENILE CRIME.

The acknowledged diminution in juvenile crime in the metropolis, of which I spoke last year, may fairly be traced in part to our withdrawal of so many children from the streets. In the whole of London, the number of arrests on suspicion of children under sixteen was, in 1877–'78, 294 boys and 60 girls, being the smallest number for simple larceny within the decade. From the governor of the county jail at Newington I learn that the prisoners between the ages of 5 and 14 received during the past 8 years have gradually diminished from 367 in 1870 to 146 in 1877, while the governor of Holloway jail informs me this week that juvenile crime has been brought, so far as his observation goes, to a minimum, there being in his charge but one girl of school age. We do not indeed suppose instruction will, in itself, suffice to work moral reformation; yet it is noteworthy how closely ignorance and crime do keep together. In 1877 there were arrested 75,250 persons who could either not read and write at all, or could do so only with great difficulty; while only 2,732 were arrested who could read and write well.

COST OF THE SYSTEM.

The great heads of our current expenditure are school maintenance, which for the year ended March 25 last required a sum of 245,356*l.* 7*s.* 1*d.*, the operation of the compulsory by-laws 26,623*l.* 17*s.* 8*d.*, and industrial schools and training ships 23,152*l.* 12*s.* 3*d.* Office expenses were under 4 per cent. of the total expenditure, and legal expenses, connected chiefly with acquiring sites, less than 1 per cent. This is apart from the interest on and repayment of loans, and the capital expenditure incurred in the erection of permanent schools. As some misunderstanding has been caused by our proposal to provide a working capital by borrowing from the Metropolitan Board of Works a sum to be repaid in fifty annual instalments, it may be well to quote the reply sent by the

Education Department to a memorial addressed to it by the parish of St. George, Hanover-square:

Your vestry are doubtless aware that the proposal of the school board to provide a working capital by borrowing 75,000*l.* arises from the difficulty which some of the rating authorities experience in meeting the demands of the board within a reasonable time after the precepts are issued, and from a desire on the part of the board to discontinue the practice—which they are advised is illegal—of borrowing from time to time of their treasurer. My lords note that, in the estimate of the expenses of the board for 1878-'79, the precepts unpaid on December 31, 1877, amounted to no less a sum than 143,103*l.*, or more than a fourth part of the sum annually required from the rating authorities.

Our sources of income arise from the government grant earned by our scholars, amounting for the past year to 91,331*l.* 8*s.*, giving an average grant per child of 12*s.* 10*d.* School fees, as already noticed, add 55,813*l.* 1*s.* 6*d.*, while the amount received for 74 schools hired for Sunday and evening classes has been 1,142*l.* 14*s.* Our chief dependence, however, must be on the rate, which stands at 5¼*d.* Although this year we have been able to keep down the rate and even practically reduced it, the working of the compulsory by-laws and the industrial schools act throws upon us so heavy a burden, outside our ordinary work of school provision and maintenance, that we dare not hold out the prospect of speedy relief being found possible. In the letter of the Education Department before referred to, the closing sentence is this:

Looking to the heavy deficiency in the school accommodation which had to be supplied by the action of the School Board for London, and bearing in mind that salaries and wages are necessarily higher in London than in the country, my lords are of opinion that the sum per pound of the ratable value paid by the ratepayers toward the expenses of the board compares not unfavorably with the sum paid by the ratepayers in the country.

We believe also that our constituents will remember, as was recently said, that "an education rate is in the nature of an insurance against future and menacing evils which we ought to be very well content to pay. It is not like the poor rate, which, however necessary it may be, is an evil necessity at the best, and indicates a dead weight of destitution and distress. An education rate, on the other hand, is a charge every penny of which can, and ought to be, expended to profit. Every child we educate, who would otherwise be left in ignorance, is a direct gain to the community."

It is due to add that we are greatly indebted to the experience and zeal of ladies and gentlemen who act as local managers of our schools and members of our divisional committees; we shall cordially unite also in recognizing the eminent service rendered by the clerk of the board and our efficient staff. Speaking as I do individually, I need have no hesitation in referring to the steady and earnest work of my colleagues on the board. It is not too much to say that many of them give almost daily attendance of many hours' duration in addition to constant supervision of local work in their own divisions.

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 2—1879.

PAPERS, ADDRESSES, DISCUSSIONS, AND OTHER PROCEEDINGS OF THE DEPARTMENT OF SUPERINTENDENCE OF THE NATIONAL EDUCATION ASSOCIATION, AT THE MEETING HELD AT WASHINGTON, D. C., FEBRUARY 4, 5, AND 6, 1879; THE PROCEEDINGS OF THE DEPARTMENT OF SUPERINTENDENCE OF THE NATIONAL EDUCATION ASSOCIATION FOR 1877; AND THE PROCEEDINGS OF THE CONFERENCE OF THE PRESIDENTS AND OTHER DELEGATES OF THE STATE UNIVERSITIES AND STATE COLLEGES OF OHIO FOR 1877.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1879.

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LETTER

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., April 18, 1879.

SIR: You are familiar with the fact that in the dark hours of Prussian history, when Baron v. Stein was determining those principles of administration which have been so important in establishing Germany's present preëminence in Europe, he sought "to connect government with science" so that those charged with the direction of public affairs could avail themselves of the knowledge of experts in the several departments of philosophy when the public welfare would be promoted thereby.

It is always a matter of regret to see officials (whether of the city, county, State, or nation) separated from the best thought of those citizens who may be specially informed on the several topics which are included in their responsibilities. In this country the best informed have excellent opportunities for the free expression of their ideas in many voluntary associations, but too often their ideas affect legislation only after they have instructed the general public and secured its emphatic approval.

This Office, existing solely for collecting and disseminating educational information, has sought continually all possible aid from the voluntary as well as official opinions expressed by those most skilled in matters of education. More especially has it received aid from the organization known as the Department of Superintendence of the National Education Association; its members live and work in all parts of the country and deal with those general topics and interests which embrace in some form all phases of education; out of their action, indeed, this Office came into existence. Year by year it has been assisted by them in selecting its plan of work and conducting its inquiries. Their proceedings, as a rule, relate to the most vital problems of educational administration. Therefore, in presenting for publication the following papers and discussions, I am so far seeking to disseminate by means of this Office the information specially desired by those who administer the affairs of our school systems.

I have the honor to be, very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

Hon. C. SCHURZ,
Secretary of the Interior.

Approved, and publication ordered.

C. SCHURZ,
Secretary.
21-28

NATIONAL EDUCATION ASSOCIATION.

DEPARTMENT OF SUPERINTENDENCE.

FIRST SESSION—TUESDAY MORNING.

WASHINGTON, D. C., *February* 4, 1879.

Pursuant to the call, a convention of State and city superintendents of public schools was held this morning in the lecture room of the Congregational Church, Tenth and G streets. Following is an extract from the call:

HARRISBURG, PA., *January* 7, 1879.

A special meeting of the Department of Superintendence, National Education Association, will be held in the lecture room of the Congregational Church, Tenth and G streets, Washington, D. C., commencing on Tuesday, February 4, at 11 A. M., and continuing several days.

* * * * * * *

Papers will be presented on the "Wants of the National Bureau of Education;" "Education in Switzerland;" "Education at the Paris Exposition;" "Industrial education;" the "Needs of education in the South;" "Instruction in governmental ideas;" and on "Drawing in its relation to industries."

The questions proposed for discussion are the following:

1. The census of 1880 as it relates to education.
2. Educational qualifications for American citizenship.
3. Wherein our public schools lack as a moral agency.
4. Dangers that threaten our systems of public education.

* * * * * * *

J. P. WICKERSHAM, *President.*

R. W. STEVENSON, *Secretary.*

The Department was called to order by President Wickersham at 11.30 A. M., and was opened with prayer by Rev. S. Domer, D. D., of St. Paul's Evangelical Lutheran Church.

The PRESIDENT. In the absence of the regular secretary, Mr. R. W. Stevenson, I will ask Mr. J. J. Burns, State superintendent of common schools of Ohio, to act as secretary for this meeting.

Mr. Burns accordingly took his seat as secretary.

The PRESIDENT called for the order of business, and Hon. J. Ormond Wilson, superintendent of schools for the District of Columbia, offered the following resolution:

Resolved, That the following committees be appointed by the president, namely: An executive committee, to arrange the order of exercises for this meeting, to consist of three members; a committee on invitations, three members; a committee on resolutions, three members; a committee on national legislation, five members, with power to increase their number.

Mr. Stämpfli showed how illogical it was for the confederation to interest itself in the higher education of the few and neglect elementary instruction which affected beneficially the masses. He said:

Every year some sixty or seventy thousand children leave the primary school. Hardly six or eight hundred of them will ever reap the benefit of our higher institutions of learning; we thus do nothing for 99 per cent. of these children; surely, this is no small matter. We have ingrafted on our statutes provisions empowering the federal government to assist cantons in works of public utility; other provisions relate to the protection of forests and rivers; others refer to railroads and banks, to the naturalization of foreigners, to marriage, &c. All these, as a whole, appertain to material matters, and an article having some bearing upon the intellectual development of the nation, it would seem but fit and proper, should be added thereto. The state certainly cannot be indifferent to the greater or less intelligence possessed by the youth of the land which it calls into military service for its protection, and which in time will certainly mould its destiny at the polls. Our political life grows from year to year more democratic, as the people are called upon more and more to take part in the work of legislation. It cannot, therefore, be a matter of indifference to the state with what grade of intelligence 99 per cent. of its children leave school. Abundant proof exists that a large number of the young soldiers of the republic are seriously deficient even in reading and writing. Elementary instruction to a certain grade must, therefore, be made compulsory, and, being so made, must be gratuitous; for, if it is obligatory to send children to school, it would be wrong to exact payment from those having to send them, &c.

The amendment in substance above cited, being incorporated with others of an objectionable character, failed to be ratified when submitted to the people. It was not until January 31, 1874, that the question again took definite form in an amendment to the federal constitution, now in force, approved April 19, 1874, by a large majority vote of the people. It reads as follows:

ART. XXVII. The confederation is authorized to establish, in addition to the existing polytechnic school, a university and other higher institutions of learning, or aid such institutions.

The cantons shall provide satisfactory elementary instruction, which must be under the exclusive control of the civil authorities; said instruction is obligatory and in the public schools gratuitous.

Persons of all creeds shall be enabled to attend the public schools without infringement of their religious belief or liberty of conscience.

The confederation will adopt requisite measures to proceed against cantons failing to comply with these provisions.

Previous to explaining somewhat in detail the bearing which the several provisions of this article have had upon elementary instruction in Switzerland, and before I refer to the beneficial results yet in prospect, I must again revert to the military organization, or, as it might be called, the militia system of Switzerland, and show how effectively it aids the efforts of the educator in developing a system of public instruction which shall in reality rear the child into a useful and intelligent citizen.

INFLUENCE OF THE SWISS MILITIA SYSTEM ON POPULAR EDUCATION.

In the first place the military ordinances of Switzerland require that the cantonal governments shall give all boys a gymnastic course of training, commencing at the age of ten and continuing until their twentieth

year. During the last two years target practice, involving the manual of arms, may be introduced by federal authority. These ordinances permit the release from further military service of teachers of public schools who have passed the "recruiting" course, and altogether relieve them from military duty after attaining the age of 25 years. But this is by no means all, for, as has already been said, every Swiss is subject to military duty, and at the age of 20 years every youth found physically qualified must be enrolled. At such time the recruit is also subjected to an examination as to his educational status, and I append a statement of what is expected and will be exacted of him under the rules approved by the federal government September 28, 1875. Unless the recruit can bring satisfactory proof of having creditably attended at least one year an institution of higher grade than that of an elementary school (which latter implies a course of from 6 to 9 years' attendance), he will be examined in reading, writing, arithmetic, and history.

His responses to these four test subjects will be rated as follows:

Reading: (1) Mechanically correct reading, intelligent intonation according to subject and form, or at all events a free rendering. (2) Satisfactory mechanical reading and correct responses to questions relating to the subject read. (3) Mechanical reading devoid of passable knowledge of contents. (4) Inability to read even mechanically.

Writing: (1) A brief composition—as to contents and form, orthography, calligraphy, and punctuation to be correct. (2) A brief composition showing more or less deficiency and defects in one or another of the points first named. (3) Form and contents of composition weak and unintelligible. (4) Worthless effort at composition.

Arithmetic: (1) Expertness in the four fundamental rules, with simple numbers and fractions, illustrated by examples in the ordinary line of business. (2) Application of the four rules with simple numbers. (3) Only partial solution of examples in the four rules. (4) No solution whatever.

History: (1) Statement of the principal events of Swiss history and leading provisions of the constitution. (2) Correct answers to historical and geographical questions relating to Switzerland. (3) Knowledge of at least some of the events or names embraced in the questions asked under number two. (4) No correct response at all.

Such of the recruits as have number four marked against them in more than one of the above branches of knowledge must attend, during their period of service as recruits, the supplementary schools established by the military authorities; these schools give instruction in the branches above indicated.

These tests when first made showed an appalling difference in the educational status of the citizens of different localities. For instance, in the examination of 1876, from 29 to 48 per cent. of young men were rated as obliged to attend the supplementary schools, or, in the aggregate, 3,577 (12.04 per cent.) out of a total of 28,851 examined. As was

to be expected, the laggard localities in matters of elementary instruction promptly received attention from both the cantonal and federal authorities, and it is asserted that not many years will elapse before the effect of the constitutional provision already cited will give a very different showing.

WORKING OF THE SYSTEM.

Thus we see that, despite the advanced state of public instruction in the larger part of Switzerland, serious defects were apparent in some sections, demanding the great power of public opinion formulated in a federal statute to remedy them.

How this remedy is applied I now propose to show; and the educator will therein recognize what progress, if any, Switzerland has made within the last three years in the matter of public instruction.

When we come to examine more closely Article XXVII of the constitution it will be found that its scope is far greater than at first might be supposed.

The first section unquestionably empowers the federal government not only to establish a national university and maintain the existing Federal Polytechnic Institute, but also to establish normal institutes for teachers of both sexes; in fact, taking into consideration what follows relative to elementary instruction and the drift of the debate in congress, the establishment of federal normal schools to train teachers for the public schools seems well nigh imperative. Article XXXII of the constitution also implies this, as it virtually empowers the confederation to introduce and bestow upon primary school teachers federal certificates of competency.

This is considered by educators a great step forward in raising the standard of teachers employed in public schools — securing eventually greater uniformity in text books, in the courses of instruction, in school appliances, and altogether attaining a greater average efficiency.

The second section of the statute ("The cantons shall provide satisfactory elementary instruction which must be exclusively under the control of the civil authorities") incites cantonal emulation and removes the danger of drifting into a centralization detrimental to individual effort. It fixes the standard of attainment in exacting "satisfactory" or "sufficient" elementary instruction.

In order that the term primary or elementary instruction may not be misunderstood, I would state that it comprises in general terms a course of from six to nine years' study, embracing: (1) Reading, writing, and composition; (2) mental and written arithmetic, including the four fundamental rules, decimal fractions, and various applications of the rule of three (Regeldetri); (3) geography and elementary cosmography; (4) history of Switzerland and a knowledge of the provisions of its constitution; (5) geometrical drawing; (6) vocal music; (7) the elements of hygiene and natural history, and, in rural districts, of agriculture; (8) for girls, female handiwork; (9) for boys, gymnastics.

"Satisfactory" or "sufficient" elementary instruction is not only to be required in public schools, but it is obligatory upon the federal government to exact it also in denominational and private schools, and even in the family, when it is preferred to impart instruction at home. In fact, all Swiss children physically and mentally qualified must receive "sufficient" or satisfactory elementary instruction, no matter whether poor or rich, whether Catholic or Protestant, Israelite or Gentile.

In order that there shall be no evasion possible, it is made obligatory upon the cantons to provide this elementary instruction under their immediate supervision, and the civil authorities, therefore, cannot delegate this duty to any religious or secular order. If, however, any religious order, private corporation, or individual elects to give elementary instruction to Swiss youth within the territory of any canton, said canton must see to it that the same comes up to the federal standard designated "sufficient;" otherwise it is liable to be prosecuted by the federal government.

The third section, making this elementary instruction "obligatory" on all and at the same time stating that in public schools it must be "gratuitous," leaves no excuse whatever for any failure to attain it. This is well recognized by most of the cantons through statutory provisions enacted mainly since the adoption of this federal law, although Article III of the transitionary provisions of the federal constitution accords five years (until April 19, 1879) to carry this measure fully into effect.

Thus we find in the canton of Upper Unterwalden that the elementary school course by law begins when a child is seven years of age, and continues for six years; to which is added two years' attendance in a higher grade (making eight years in all). This is obligatory, and all youths just previous to enrolment as recruits receive a special review course of instruction occupying 40 hours

The canton of Vaud requires localities over thirty minutes' walk from a public school and containing not less than twenty children of school age to establish a winter course of instruction; for unexcused non-attendance at school this canton imposes penalties upon the parents, such as citation before the municipal authorities and fines ranging from two cents up to five dollars. This canton also requires, wherever there is a class of forty girls, either in the country or city schools, that a six months' course of instruction be given in female handiwork and household duties.

The canton of Valais requires its children to attend the elementary schools for eight years, and from the fifteenth to the twentieth year of age to participate in review courses. Unexcused non-attendance subjects parents and guardians to fines ranging from four cents to six dollars.

In the cantons of Lucerne, Freiburg, Zug, Thurgau, Schaffhausen, St. Gall, and others, not only fines are imposed for unexcused non-attendance at school, but even imprisonment is added.

In the case of the canton of Soleure, for instance, after an absence from

school for two half days, the teacher notifies the parent or guardian through the police. At the expiration of every month the teacher sends to the nearest magistrate or police court a list of absentees, or he may during the month enter complaint. The magistrate gives judgment for the amount of penalty and transmits the same to the police court or presiding judge, where, if thought advisable, the penalty may be increased. These fines range from ten cents to five dollars, and must be paid within a month, or the defaulting party is subject to imprisonment. The police is empowered to arrest any truant and take the same to school, and for so doing receives the fine imposed upon the parent or guardian.

This suffices to show that the provisions of the third section of the article relating to elementary instruction have every prospect of being complied with.

RELIGIOUS INSTRUCTION.

In order that there may be no doubt upon whom the religious training of children devolves, since section 2 of the twenty-seventh article of the federal constitution exacts a complete secularization of the public school system, we find that in section 2 of Article XLIX the religious training of children under 16 years of age is explicitly remitted to parents and guardians; and in order that such training may not be interfered with, section 4 of Article XXVII secures to all attendants at the public schools entire freedom in matters of faith and conscience; for bigotry is not confined to the clergy or to religious orders, but is also quite often met with in scientific and scholarly enthusiasts. Recognizing this fact, it was thought well to restrict alike both overzealous churchmen and materialists. The result is that children of all creeds may attend the public schools of Switzerland, regardless of the tenets held by the teachers or prevailing in the respective municipalities. During the regular course of instruction, the programme of which is subject to federal inspection, doctrinal text books, and the teaching of religious dogmas are inadmissible. Religious instruction, however, is not debarred from being given in the public school buildings, but it must be imparted at a time which shall not interfere with the regular daily course of secular studies; in other words, before or after school hours. At such times attendance can in no case be made obligatory.

It is true that in a country like Switzerland it will require time to enable the people of all localities to adapt themselves fully to this new order of things; but as a whole the several cantons are framing their laws and changing their customs to conform to the federal law, and its tendency, it is thought, will rather vivify than weaken religious training.

NORMAL TRAINING.

In securing a satisfactory grade of elementary instruction much remains to be done in the way of providing for greater uniformity of school hours, in establishing the maximum number of scholars to a class

or teacher, and in determining the minimum duration of elementary instruction; all these subjects are receiving attention.

I have already alluded to the important services of certain great Swiss teachers in giving direction and form to the progress made in popular education. I will now speak of the great body of teachers of the day, what is expected of them, what they have done, how earnestly and actively they labor in promoting the cause of education, and what the federal government proposes to do in facilitating their efforts.

The indefatigable Numa Droz, late secretary of the interior of Switzerland, in a most able report recently made to the High Federal Council, very pointedly says: "As is the teacher so will be the school;" and he then argues that it is simply impossible, no matter how excellent the system, to attain a satisfactory grade of instruction with indifferent teachers; the greatest and most effective reform of all others, in his opinion, would be to provide thorough teachers for all Switzerland. The questions in regard to a more uniform course of studies, text books salaries, &c., would certainly then be satisfactorily solved. Raise the standard of pedagogical studies, but at the same time give every aspirant for pedagogical honors free access to your normal schools and teachers' institutes. It is from want of proper pedagogical training that so many defects have made themselves apparent in modern modes of instruction. Says Secretary Droz:

> How often do we find children leaving our public schools unfitted to enter upon the practical duties of life incumbent upon them; how often do we see children studying philosophy, chemistry, literature, and the like, when in their composition and spelling the grossest errors are noticeable; how often children pore over the geography of Asia and Africa, delve into the history of Egypt and Persia, while unable to relate even the most memorable events of their own country or correctly define its boundaries.

Half a century ago the common school did not venture beyond the catechism, and a little reading, writing, and ciphering, while nowadays the tendency is to rush to the other extreme; intellectual gluttony would seem to have followed close upon intellectual poverty. The fact is, the public school of the present aims to do too much, and consequently the teacher, ill prepared for such work, fails to do well what is assigned to him. Prof. Joseph Payne says most forcibly on this subject:

> There is much talk nowadays about "raising the standard" of education, and it would seem that some think the standard may be raised by the addition of new subjects to the curriculum of elementary instruction. If, however, the machinery of our education is defective—and the results prove that it is—giving it more work to do is surely a unique device for improving its action. The mill grinds badly, and the grist is unsatisfactory; and the remedy proposed is to put more corn into the hopper.

In concluding his report, Secretary Droz says that the most powerful and effective lever for raising the system of public instruction in Switzerland would, in his opinion, be "direct or indirect participation by the federal government in the training of teachers for elementary schools."

The federal government even of a republic deems it essential itself to train the instructors of its military arm. Why not equally essential that

it should train the instructor of its civil arm? If the hand that wields the sword and the mind that devises the defences in times of war must be trained by the State, surely, then, the hand that wields the pen and the mind that frames its legislation in times of peace should receive their training from the same source.

Prof. Aimé Humbert, deservedly looked upon in Switzerland as an acknowledged leader in matters of education, has given this subject of establishing federal normal schools much study. In a series of able letters to Professor Desor, of the Swiss congress, he recommends the establishment of a federal normal institute comprising two sections—one in German, the other in French Switzerland, with a branch in the Italian canton. The full course of study should embrace 4 years, the third to be spent by the student from German Switzerland either in the French or Italian section and vice versa. The annual expense to the federal government of maintaining such an institution is estimated by Professor Humbert at $30,000.

At the commencement of last year (1878) there were in Switzerland 27 normal schools and teachers' institutes. Twenty were public institutions, and of these the cantons of Berne and Valais each had four, leaving one each to twelve other cantons, while ten cantons were entirely without normal institutions.

Under these circumstances, one must wonder that in Switzerland public instruction has advanced to its present standard. But when we see what is done for the training of teachers in some localities we readily recognize the influence the graduates must have exercised upon the popular mind and upon the system of elementary instruction wherever they have been intrusted with it.

No matter what the creed or sex of the teachers, whether Catholic, Protestant, Israelite, or Gentile, cantonal laws now exact certificates of competency. In the canton of Soleure, for instance, persons desiring to devote themselves to teaching are required to attend a three years' normal course, when, only upon graduating, they receive a diploma entitling them to teach. Others not attending this course desiring to teach must successfully pass an examination like that to which the successful graduates of the teachers' institute have been subjected. In some cantons teachers not continuously in service are likewise subjected to reëxamination at stated periods.

What in Switzerland has greatly impaired the labors of the teacher up to the present time is the excessively large numbers of scholars in some of the schools and classes assigned to one teacher, ranging, as they do, from 50 in the canton of Neuchâtel to 60, 70, 80, and even 100 in the canton of Zürich; for industrial and drawing classes the maximum ranges from 30 to 40 pupils.

Another serious obstacle in the way of securing better results is the number of hours appointed for tuition, ranging, as it does, according to locality and season from 25 to 36 hours per week, exclusive of gymnastic and other extra courses.

INSUFFICIENT PAY OF TEACHERS.

A last and great complaint made by the teachers of Switzerland is in regard to the unequal and, in many cases, sadly inadequate salaries fixed by the civil authorities. This deters many endowed by nature for the vocation from preparing for and professionally entering upon the career of a teacher. This question of "salary" has of late repeatedly been brought to the attention of the federal authorities by petition and otherwise. It is claimed, and it would seem justly so, that the teachers in the civil service of the people should be paid at least as well as the teachers in the military service.

At the teachers' convention in Winterthur, 1874, after considerable discussion and elucidation of the subject, it was formally determined to recommend the passage of a federal law fixing the minimum pay of teachers in the elementary public schools. The federal authorities while recognizing the difficulty of framing such a law as would operate equitably in all sections of Switzerland, nevertheless do not seem indisposed to give the subject serious consideration. To do so, it is believed would make it easier to secure a better class and an increased number of candidates for admission to the federal normal schools, should such schools be established. The point is made that if federal law can fix the standard of public instruction in elementary schools and the minimum of knowledge required for the position of a teacher, it is also competent to determine the minimum salary to be accorded to such position.

According to the latest information upon the subject (1874), the salaries of the 5,789 public school teachers then in Switzerland varied beyond all conception, ranging, so far as known, from about $100 to $900 a year, with all manner of provisions as to perquisites, the furnishing of substitutes, and other responsibilities. Many localities furnish fuel and residence, some exempt teachers from taxation of all kinds, while others enrol them in endowment associations, and seven cantons accord regular pensions (some to the extent of half pay) to teachers retired or superannuated.

It will therefore be seen that the provisions made for the training of teachers in Switzerland are good, I might say excellent, so far as they go, but that these institutions are far too few in number and limited in means to supply efficient instructors for all the land. It will also be seen that the teachers of Switzerland labor under many and serious disadvantages in regard to the responsibilities exacted of them and the remuneration accorded.

Despite all this, the Swiss teachers are by no means disheartened. You will find them constantly gathering and consulting upon matters of common interest and educational progress. Annually you will find at the convention of the Swiss teachers' union an attendance of a thousand or more of these earnest promoters of intellectual advancement and civilization. You will find them active not only in the school room

but also on the field of social and political science, called upon frequently to participate prominently in municipal, state, and national affairs; in fact the Swiss school teacher may well be looked upon as embodying more than any other the elements of a true type of the "man of the people," ruling the destinies of the democratic republic of Switzerland.

EDUCATIONAL BUREAU AND MUSEUM.

An educational museum, to which the federal government extends liberal aid, is already performing its work in Zürich; but to give better form and expression to the earnest efforts of Swiss educators and instructors, we need in Switzerland, as an adjunct to the department of the interior, a federal bureau of education, such as the Congress of the United States has most wisely established at the seat of this Government, and which by efficient management has already proved and will continue to prove a blessing to the land second to none. Its excellent annual and special reports prominently hold up the mirror for self-examination, and where shortcomings present themselves to view, you, teachers and instructors, as the custodians of an essential element in promoting the public welfare, are expected to indicate the remedy, which the wise legislator will surely not be slow to apply. Such an institution we need in Switzerland, and I am happy to say have every prospect ere long of obtaining. It will place the capstone on the statutory structure of which "elementary instruction under federal supervision" constitutes the foundation.

CONCLUSION.

In conclusion, I would say that it is not the prestige won by ancestors in battle nor the guarantee of neutrality vouchsafed by the great powers of Europe nor its apparently unassailable Alpine fastnesses that for centuries have protected republican institutions in Switzerland; the secret of the preservation and maintenance of freedom lies in the maxim "knowledge is power," which in Switzerland has ever received popular recognition. To its teachers and schools even more than to its soldiers and statesmen, are owing the freedom and prosperity which my country enjoys.

On the conclusion of the reading of the paper, which was listened to with marked attention,

Mr. BARNES, of Pennsylvania, said: I would like to ask whether we are to distinguish between teachers' institutes and normal schools, as mentioned in the paper, or do the terms mean the same?

Mr. HITZ. They are identical.

Mr. BARNES. I desire to know also what the public sentiment is on the subject of compulsory attendance in Switzerland. Can you give us a correct idea as to that, Mr. Hitz?

Mr. HITZ. The vote would perhaps show what that sentiment is better than any other evidence that could be given. It was overwhelmingly in favor of compulsory education. I would say that in what we call the

Ultramontane section of Switzerland they are opposed to compulsory education, not unanimously, but in a large majority; but all the other sections of Switzerland voted, by a large majority, in favor of compulsory attendance. The ground taken was that, being made compulsory, it was also, of course, made gratuitous.

President WICKERSHAM hoped that the paper of Mr. Hitz would be extensively circulated. He said that the Swiss school system resembles ours more than any other European system does. The Swiss schools are free and graded; German, French, and English schools are not so in the sense in which we use the words. We can learn much from the Swiss, especially about industrial training in connection with common schools. Swiss schoolmasters are accustomed to teach their boy scholars the rudiments of agriculture, horticulture, gardening, vine raising, &c., on the little fields attached to the school-houses. He would ask Mr. Hitz whether this is the general usage.

Mr. HITZ. Provisions of the law in most of the agricultural cantons require the teacher to spend a part of his time in teaching the pupils the first lessons in gardening and agriculture. In the canton of Vaud, particularly, you will find this. We have no large towns or cities in Switzerland, and the people are consequently more or less grangers. [Laughter.] The teachers in the villages and rural districts all inhabit their houses rent free and have a little garden of an acre or two and sometimes five or six acres attached, and they not only work these little patches of ground with a view to instructing the children in the elements of gardening, horticulture, &c., according to the taste of the teacher, but also with a view to the work of the pupils on larger tracts for the benefit of their communes. They have, therefore, a regular course of training in agricultural science.

President WICKERSHAM remarked that while the boys are thus taught outside the school-houses, the girls are instructed in sewing, cutting out garments, knitting, &c. He had seen at Interlaken the school girls following the patterns for cutting which were drawn on the blackboard for their lesson; he would not dwell on this matter of industrial training in Switzerland so much if he were not convinced that it should be incorporated into our American system. He had observed another interesting practice in Switzerland: he had seen many parties of scholars travelling with their teachers in the most beautiful and instructive parts of the country. Would Mr. Hitz inform the meeting whether these "peripatetic schools" are common in his country.

Mr. HITZ replied that it is a common custom.

President WICKERSHAM thought these trips an admirable way of teaching children the forms and laws of nature.

Mr. BARRINGER asked if the Swiss are troubled by any desire of the girls to do what is assigned to the boys.

Mr. HITZ. As yet we have not discovered any such tendency to an alarming degree. I suppose it comes from the instruction they receive at home and from the example of the parents. [Laughter.]

Mr. BARRINGER could not agree entirely with Mr. Wickersham in wishing to add industrial departments to our common schools; although he did not think they would be practicable or desirable, he was glad to hear all these ideas presented and these plans discussed. People are becoming roused and are asking questions; our teachers are travelling more than ever before. Time was, and only a few years ago, when no one could go abroad to travel in Europe but sickly clergymen of rich congregations; but in these days we see even poor schoolmasters running around in Switzerland. [Laughter.] He begged the chairman's pardon; he did not mean to say that they are *poor* schoolmasters, only impecunious. [Laughter.] These inquiring teachers are visiting various parts of Europe and noticing what is going on there, and they come home and give us the valuable information they have gathered. It is one of the most encouraging signs of the times in our educational work that we are trying to learn from one another and from other nations. He favored the comparison of facts, the collection of statistics, and the publication of information for the public use.

The PRESIDENT said that he was requested to extend a cordial invitation to the members to visit the office of the United States Bureau of Education.

Mr. C. W. BARDINE, of Syracuse, N. Y., resuming the previous discussion, asked whether foreign countries are troubled, as our own is, by the prejudice among many people against manual and industrial pursuits, which he thought might be the result of injudicious education.

Mr. HITZ replied that the Swiss are generally too poor to become lawyers or physicians, nor are these professions popular. Work is esteemed and almost all the children are trained to some industry; the idea being to furnish such instruction as will enable them to become industrious and intelligent citizens of the community. After mentioning the right possessed by his countrymen to vote for the laws passed by the legislatures, and the importance of having intelligent voters under these circumstances, he alluded to the opportunities for obtaining professional training in Switzerland: the four universities and the military schools. He added that the school system of Switzerland is supervised by regular inspectors, appointed and paid by the government; only pupils of sufficient acquirements may be admitted from the lower grades to the university classes.

The PRESIDENT informed the Department that Dr. Barnas Sears, agent of the Peabody fund, would not be able to attend its meetings on account of important business.

POPULAR EDUCATION IN FRANCE.

The PRESIDENT then introduced Dr. E. C. Wines, secretary of the National Prison Association, who said:

Mr. President, I feel gratified by your kind introduction of me to this body, and by being called upon to address it, though the honor has

quite taken me by surprise. I have been much interested in the paper read by the consul general of Switzerland, of which I heard the greater part, as also in the discussion upon it, which has been exceedingly instructive. Both the consul and the speakers have furnished many important ideas in connection with the subject of education. It is perhaps not out of place nor foreign to the present purpose for me to say that the early part of my life was wholly devoted to the work of education. I spent some twenty-five years in this work, but for the last eighteen years I have been connected with it only so far as it belongs to the penitentiary administration of different countries.

Education has made great progress in prisons. This could be easily shown, but I do not propose to show it now.

I looked a little into the subject of popular instruction in France during my recent visit there, and was extremely gratified with the earnestness and activity of the government and people, and particularly of the city of Paris. I believe that I am quite within the bounds of truth in expressing the opinion that the progress made by France in the department of public education within the last eight years is greater, absolutely, than all the progress made in that country during the years intervening between the revolution of 1789 and that of 1870.

The republican leaders of France feel that the very life of the republic, its permanence, depends upon the diffusion of popular instruction among the masses, and with great vigor, and great liberality too, they are directing their efforts to that point. They say that the country must be covered with school-houses; that the smallest hamlet must have one of its own. The country is going to build immediately 17,000 school-houses; 3,000 more are to be purchased or appropriated, and 5,000 are to be altered and enlarged. But how obtain the necessary funds for so vast a work? M. Waddington has solved that problem. In March, 1877, he submitted a bill under the provisions of which 120,000,000 francs (equal to $23,160,000) will be expended in five years on the construction of school-houses. But not only is public instruction extending in breadth, its thoroughness is increasing in an equal ratio.

Industrial education is also being introduced into the public schools. Plain sewing has long been taught to the girls who attend the schools of Paris, but now, in some of the arrondissements at least, dressmaking has been added, and girls belonging to the working classes are taught to make a dress, from cutting it out to putting on the last flounce. They become experts in that department of labor. One excellent result has been that parents now leave their children in the public schools a year longer, which is an advantage in many ways.

The French people hold also that the acquirement of good habits in general is a matter of the first importance, and that such habits should be sedulously cultivated in school. For example, the habit of economy they regard as a preservative from many evils and a source of many blessings; consequently, they make the school an agent in developing and

strengthening this virtue. The municipality of Paris gives an annual premium of 100 to 150 francs to the most diligent and best behaved child in every hundred in the public schools. This money is put into a savings bank, and the child is furnished with a bank book; the money therein placed to the child's credit remains in the bank until he reaches his majority; his parents cannot touch it, it being made by law his personal property. Not only that, but every child is permitted when he or she gets a single sou to give it to the teacher, who takes it and is obliged to keep an account with the child until the deposits amount to a franc; then the account is placed in the savings bank, and the child gets a bank book and keeps it. That money, as I have said, belongs to the child, and not to the parents, and hence many children in the public schools are laying up a little money and at the same time acquiring the habit of economy, which, as you know, Mr. President, is worth more than the money itself.

In Paris, the superintendent of public education has charge as well of schools of a higher character as of the more elementary schools. They are establishing schools there for the purpose of teaching trades; they have one now, a very important one, at La Villette, in Paris. One of the plans adopted is to keep the child engaged for a year in learning the use of the tools most commonly employed in the working of wood, iron, and other raw materials for manufacturing purposes, until he can judge for himself what kind of mechanical work he would like best; then he is placed in a special shop, under a foreman. The course in this school lasts three years. It is in contemplation to establish other similar professional schools in different parts of Paris.

The Parisians have another practice to which I will refer. In answer to a question put to the consul general as to whether the children in his country are taken out and taught in the woods and fields, among the trees, rocks, streams, mosses, flowers, &c., Mr. Hitz referred to such a custom in Switzerland. There are five schools in Paris called superior schools of public instruction. The authorities have a system of taking from each of these superior public schools the fifty best scholars, as ascertained by examination, and the conduct comes in as well as attention and progress in learning. The annual vacation of two months in summer is spent by these selected pupils, under the care and guidance of able professors, at some celebrated seaport, manufacturing town, or historical city, where they carefully inspect and examine whatever objects of interest and curiosity the place contains.

I believe strongly, Mr. President, in the importance of that thing; and forty-five years ago, when I was conducting the Edgehill School, in New Jersey, my practice was once a month to take the whole school, with all the teachers, for an entire day, into the country, where they wandered up and down streams, rambled through the woods, gathered wild flowers, &c.; and on their return I required them on the next letter day to give an account to their parents of the excursion, with its

incidents and sports. Once in the course of each session my practice was to take them for two days to some neighboring town or village, and while there, as well as in going and returning, they were required to make close and careful observations under the guidance of the teachers and myself, and then, when they returned, I always gave them an entire day to write out the account of their observations and enjoyments, which in like manner they sent to their parents. These I looked upon as among the most profitable as well as agreeable of the days and exercises of the school. I had many students from a distance, mostly from the Southern States. The vacations lasted a month in the spring and a month in the autumn. The time was too short for them to go home. And there were generally half a dozen of the pupils who, under the protection of a teacher, went on journeys often to distant parts of the country; such scholars were always required to keep a journal of all they saw and experienced, and send it to their friends. This also was found extremely useful.

I agree entirely with you, Mr. President, in the views you have expressed, from which a friend has dissented, that some degree of instruction should be given in the industrial arts even in our common schools. This idea is carried out very successfully in Sweden.

I have occupied too much time, Mr. President, and am much obliged for your patience and that of this learned assemblage.

The Department then adjourned to meet at 7.30 P. M.

SECOND SESSION—TUESDAY EVENING.

WASHINGTON, *February* 4, 1879.

The Department reassembled at 7.30 P. M., President Wickersham in the chair.

The convention was tendered and accepted an invitation to visit Mr. Z. Richards's Eclectic Seminary, at No. 1434 Q street.

Hon. W. H. BARRINGER, of Newark, in the absence of the author, Hon. E. A. Apgar, superintendent of public instruction for the State of New Jersey, read a paper on

TECHNICAL EDUCATION.

Before going to Europe the past summer I was honored with a nomination by Governor McClellan and an appointment by President Hayes as United States Commissioner to the Paris Exposition. I was also favored by General Eaton, chief of our National Bureau of Education, with letters of introduction to prominent educators and school officers in various countries. I thus enjoyed peculiar advantages in studying school systems abroad.

While historical monuments, church architecture, picture galleries, sculpture, antiquities, museums, natural scenery, the Paris Exposition,

&c., all made demands upon my time, I endeavored to give special attention to European systems and methods of instruction, and seldom left a city without either visiting some of the schools or ascertaining something of what was being done for the education of the children.

In some respects their schools resemble ours, and in others the contrast is quite striking.

The buildings, as a rule, are not so good as those in this country. Most of them have either been rented or purchased and awkwardly adapted to the uses of the school. Even in Paris, the schools I visited were held in buildings which had not originally been erected for school purposes.

Not in a single school from London to Naples did I find the school furniture equal to ours. The pupils usually sit on long benches capable of accommodating from four to six. Some of the forms are for two only; in their construction, however, no attention is paid to beauty and but little to comfort. In general, I am justified in saying that the seats and desks for pupils and teachers in the schools of Europe are no better than those which were in use in ours twenty-five years ago. I saw many schools where there were evidences of as free a use of the jackknife as the Yankee boy was ever guilty of in the days when his natural propensity in this direction was unrestrained. The blackboards I saw were quite inferior, and what seemed most remarkable was that only one, large enough for the teacher's use, was to be seen in each room. Only the teacher makes use of the blackboard. In this respect our mode of teaching, which requires much blackboard work by the pupils, is far superior to foreign methods. The rooms are usually well supplied with maps and charts. Metric charts and apparatus are to be found in all the schools outside of England and in all departments. Small natural history collections are occasionally seen, but usually there is a large museum in the city which the classes, accompanied by their teachers, visit, and thus some knowledge is gained of familiar objects in natural history. In this respect we in this country are sadly deficient.

The military spirit which prevails in Europe is manifest in the schools. On every occasion when I entered a room all the children rose and gave the military salute. This consists in gracefully raising the right arm and placing the hand, with the two forefingers extended, at the side of the forehead. Being a simultaneous and graceful movement, it is a pleasant sight.

The schools outside of England are closed on Thursday instead of Saturday, as with us. There are numerous other holidays, called festal days, which sadly interrupt the work of education. Some are prescribed by the church, others by the state. In Italy scarcely a week passes without one or two interruptions of this nature.

The studies pursued are much the same as here. In all the girls' departments instruction is given in needle and crochet work, in embroidery, and in the making of lace. Usually one afternoon of each week is

devoted to handiwork of this nature. Much attention is given to composition writing, far more than with us. The teachers all seem to take special pride in showing the compositions which the pupils have written.

In our schools, except in the higher departments, the girls and boys are generally taught together. In Europe this coeducation of the sexes is unknown; in all the departments, from the lowest to the highest, they are separated. In Paris I found a custom prevailing which I did not observe elsewhere: the boys are all taught by men and the girls by women.

TUITION FEES.

Free schools for children of all classes, such as we have in this country, are as a rule unknown in Europe. The terms "public" and "free" are applied to their schools, but with a meaning different from that which belongs to them as used here. A "public school" is one subject to governmental control; a "free school" is one which, in a measure, is free from such restrictions and regulations as have been prescribed by the government. Both classes receive assistance from the public treasury, but not sufficient to meet all the expenses. Tuition fees are charged in both. Those known as "public schools" receive more aid from the government than those called "free," and hence the latter are more expensive to the patrons than the former. The proportion of expense paid for tuition varies in different countries. In London and Paris about four-fifths of the entire expense of maintaining the schools are paid by the government and the balance is assessed upon the parents of the children who attend. Last year the fees in London ranged from four to eighteen cents per week for each pupil. This is about the average in other countries; in some the percentage paid as tuition is lower, and in some it is higher. In several of the countries the governments have prescribed the maximum and the minimum for the charges that can be made, and the local authorities determine the varying amounts between these extremes that shall be paid by the school patrons, according to their varying financial conditions. I found in some cases that there was an ascending scale of fees charged, the expense being very slight in the lowest departments and gradually increasing through the advancing grades.

In all the countries provision is made for the free education of those who are unable to pay. Such children, however, are looked upon as pauper pupils. Sometimes all such are gathered together, and the school is known as a pauper school. The rule is, those who can pay, must. The distinction between the rich or those in moderate circumstances and the very poor, is thus made unpleasantly prominent.

Such, in brief, are a few of the observations I should make respecting the character and work of those schools abroad which correspond most nearly with our public schools; and in making a general comparison that shall be limited to schools of this grade, I feel justified in saying that our educational systems and methods of teaching are superior to those of Europe.

TECHNICAL SCHOOLS IN FRANCE.

There is another class of educational institutions to be found abroad, corresponding to which we have very few in this country, and in the study of which we may learn an important lesson; I refer to technical schools, or schools for workmen.

France has probably done more than any other country in fostering technical instruction. Special schools for educating workmen and artisans are found in every city throughout the republic. These are so conducted that any one, at a trifling expense, may pursue that course of training which will fit him for any trade or profession he may desire to pursue. The schools are divided as follows:

1. *Normal schools.*—In France there are eighty-six departments; in each of these there are two normal schools for the training of teachers, one for young ladies and the other for young men.

2. *Professional schools.*—In these schools pupils from twelve to sixteen years of age are taught to work in wood, iron, and brass. They are also instructed in mechanical and architectural drawing. A portion of the time is given to mental studies, especially to such as are in some wise related to the trades taught.

3. *Industrial schools.*—Pupils are here taught the art of making textile fabrics. Different materials are used, such as silk, wool, cotton, hemp, and flax. Much attention is paid to chemistry, because of its importance in the art of dyeing. The most thorough instruction is given in the art of designing.

4. *Schools of fine arts.*—Here every facility is afforded for obtaining a knowledge of drawing, designing, and modelling. In this class of schools the instruction is limited to art as applied to industry, or to what is known as industrial drawing.

5. *Trade schools.*—These are sometimes called apprentice schools. In them the ordinary trades are taught.

These special or technical schools are supported in various ways. A few receive direct government aid; some are supported by the departments. The trade schools are generally established and maintained by capitalists and manufacturers. Those interested in any particular line of business will contribute the funds necessary to support a school in which instruction in their trade can be given, and thus many large manufacturing firms educate their own workmen. These trade schools frequently receive some assistance from the cities in which they respectively are situated. But few of the schools are entirely free. The pupils generally pay a small tuition fee, the amount thus paid, however, being trifling.

These institutions may be divided, according to their support, into five classes:

1. *Government professional schools*, which receive their support from the government and are under the direct control of the minister of agriculture and commerce.

2. *Department professional schools*, which receive assistance from the departments in which they are respectively situated.

3. *City professional or trade schools*, which are supported in part by municipalities.

4. *Society trade schools*, which are controlled and supported by organized societies of tradesmen and capitalists.

5. *Private trade schools*, which are conducted strictly as private enterprises.

The exhibits made by these industrial schools constituted the chief attraction in the French educational department at the Paris Exposition. The exhibits consisted of articles made by the students, including drawings, models, machines, designs for textile fabrics, pottery decorations, lace, jewellery, clocks, watches, &c.

TECHNICAL SCHOOLS IN RUSSIA.

The exhibit made at Philadelphia by the technical schools of Russia suggested the establishment of the industrial department connected with the Institute of Technology at Boston, which has met with such marked success. The exhibit at Paris was much of the same character; it was far more extensive, however, and many of the articles manifested a higher degree of workmanship.

The *Institute of Technology* at St. Petersburg made an exhibit of students' work in wood and iron that was truly marvellous. The workmanship shown in the production of some of the articles was of the highest order. This school was founded in 1828. It has at present about 600 pupils. The course of instruction extends over five years. In the mechanical workshops the students commence with the trade they have chosen: they first learn the uses of the various tools and are taught certain test operations; they then proceed to the modelling of various machines and mechanical apparatus from given designs. In constructing an engine or any other complicated machine, each student makes but a single part. Any one will readily understand how accurate must be the workmanship and how closely the designs furnished must be followed in each case to insure a perfect agreement when those parts are brought together.

The *School of Trades* at St. Petersburg serves as a preparatory school for the Institute of Technology already described. Pupils thirteen years of age who have completed a three years' course in a Gymnasium may enter this school. The course covers two years. Two hours each day are given to work in wood, two hours to work in iron, and four hours to study.

An exhibit was made by the *Imperial School of Technology*, situated at Moscow, an institution similar to the Institute of Technology at St. Petersburg.

The *Central School of Technical Drawing* at Moscow made a fine exhibit of designs, drawn by the pupils for painting and weaving and

for ornamental purposes; also landscapes from nature, sketches of animals from nature, copies from originals in plaster, linear drawings from copies and from dictation, perspective drawings, &c.

The various exhibits of articles made by the technical schools of Russia displayed more systematic training and a higher order of workmanship than were shown in those of any other country.

Industrial schools similar to those of France and Russia are established in every city of importance throughout Germany, Austria, Switzerland, Holland, Belgium, and Italy.

TECHNICAL EDUCATION IN ENGLAND.

England has done less than the Continental nations in the establishment of trade schools. In fostering schools of industrial art, however, no nation has done more. At the London Exhibition of 1851 it was revealed that England was far behind her great rival nations upon the Continent in the production of articles requiring skilled labor and taste. This was acknowledged by judges of her own appointment. Convinced of her inferiority, she set herself vigorously at work to recover what she had lost. Her first act was the establishment of the South Kensington School. So rapidly was instruction in art as applied to industry provided for and diffused among the laboring classes, that within ten years after the founding of this noble institution there were in successful operation no less than 125 branch schools in different parts of the kingdom, in which instruction in industrial art was given to many thousand pupils. The results of this effort to give to England's artisans and workmen the same educational advantages those upon the continent received were manifest at the next great World's Exposition, held in Paris in 1867. Instead of being next to the bottom in artistic production, she took an honorable rank among the nations which had hitherto so far surpassed her. This marvellous advance, made since 1851, stimulated France, Germany, and other nations to improve and increase their already renowned art and trade schools. But England was not yet satisfied. She sent a commission of workmen to the Exposition of 1867, and the reports made, although admitting that their country took a much higher rank in artistic productions than she did at the Exhibition of 1851, showed that she was not yet fully abreast of other nations. Mr. John Randall, one of the commissioners, said:

> When we come to high class ornamentation in iron, earthenware, china, or glass, the superiority of French art is obvious. As long as we confine ourselves to geometrical forms in hammering, pressing, turning on the lathes, or printing on the surface, we have no difficulty in holding our own; but where an intellectualism is concerned, or a free educated hand is required in decoration, our deficiencies become apparent.

With characteristic energy she founded more schools of technical art, increased her appropriations for their support, and enlarged her museums. On the South Kensington School of Art and Science she has expended $6,000,000, and $500,000 are annually appropriated for the

support of this institution and its branch schools and classes. The wisdom of this liberal policy was manifest at the late Paris Exposition. Here England, in her industrial arts, was again brought into comparison with other nations of the world, and the showing made was one of which she has reason to feel proud. The exhibit of stoneware made by Doulton & Co. was as artistic as the best produced in Germany. Bohemian or Parisian glassware is not more elegant in form, more varied in ornamentation, or more artistic in the cutting than that exhibited by several English firms.

The English porcelain made by the Wedgewoods, Mintons, &c., is not surpassed either by Dresden or Paris. Thus in stoneware, china, and glass—three industries in which, according to the report already quoted, she was behind other nations in 1867—England is now fully equal to the most advanced, and in some varieties of these wares she is superior. The effect of her art schools was seen in other departments of fine artistic work.

These results are directly attributable to the South Kensington School. This school is a grand centre for the education of the people in art as applied to industry. It is a noble institution, and, together with its branch schools in all parts of England, constitutes the most comprehensive and best organized system of art schools in the world. The object of this school is to promote instruction in drawing, painting, modelling, and designing for architecture, manufactures, and decorations, especially among the industrial classes. To effect this object there are connected with the department: First, a museum; second, a national art training school; third, aid is granted toward the training of art teachers; fourth, toward instruction in art in art schools; fifth, toward teaching drawing in art classes, and sixth, toward the teaching of elementary drawing in elementary day schools.

The museum contains objects collected with a view to illustrate the history, theory, and practical application of decorative art. It is the largest of its kind in the world.

The National Art School is at South Kensington. Its object is to train art instructors and to educate students in drawing, designing, and modelling as applied to the requirements of trade and manufactures. The instruction given is of the highest order, and all departments of industrial art are included in the course. Certificates are granted, which give to the graduates authority to teach in any of the art schools in the kingdom.

The training colleges for teachers are schools of art situated in different parts of the kingdom for the convenience of those who desire to become art instructors. They receive aid from the department at Kensington. The amount of aid received is determined in each case by an examination; $2.50 are paid for each exercise of a specified grade successfully worked by the students.

The schools of art are devoted entirely to instruction in artistic dec-

oration; there are 143 already established. Art classes are organized for the purpose of giving instruction of an elementary character as a preparation for those who desire to enter the art schools. The number of such classes now in operation is 724.

The art department encourages the teaching of drawing in all the elementary day schools.

NEED OF EDUCATED WORKMEN AT HOME.

The demand for skilled labor has increased wonderfully in our own country within the past few years. Until recently our manufacturers have had no higher ambition than to produce plain goods, such as could be sold for the smallest sum of money, and such as necessarily left to the manufacturer the smallest margin of profit. The greatest demand has been for goods of this class, and the producer has done but little to create a desire for anything better. The necessity for goods which are intended for service only will always continue, but there is a rapidly increasing number of our people who require not only that an article purchased shall be serviceable but that it shall be an object of beauty also. Their houses must be elegant as well as comfortable. The furniture must be in style; the carpets, curtains, upholstery, &c., must all be in harmony; the porcelain, the glass, and the silverware must be graceful in form and rich in ornamentation.

How shall this demand be satisfied? What is our true policy? Shall our manufacturers continue to limit their productions to ordinary goods, and allow to foreign countries the entire monopoly of the market for wares which possess the artistic element? Our workmen continue too much in their accustomed grooves, and for want of sufficient breadth of knowledge are continually making mistakes, wasting material, and losing opportunities of trade. Goods of high artistic merit are being imported which should be made in this country; designs are secured abroad which ought to be produced here, and, to a degree which is humiliating, we have become a nation of copyists. Designers come from Europe and occupy places in our manufacturing establishments at good wages which ought to be filled by our own people. With rare exceptions, the skilled workmen and artisans in this country are foreigners. What we need is a style of ornamentation for the goods we produce which shall be original and which shall have characteristics peculiar to this country. This we cannot hope for till we give our workmen an opportunity to acquire a technical education. The importance of establishing technical schools in this country, similar to those in Europe, must be apparent to all who have given any attention to the subject. Without such schools, it is impossible for us to enter into successful competition with other nations. We have the enterprise and capital necessary to produce goods as fine as can be made in any country. What was said of England fifteen years ago as to her inferiority to other nations in artistic productions is true of America to-day. If we, how-

ever, are as wise as England has been, in establishing schools of art and industry, we can make equally rapid strides, and what is said of England to-day may fifteen years hence be equally true of our own country.

We need skilled labor, and skilled labor must be educated. There are instances where ignorant persons have become skilled workmen, but they are rare. The rule is that the ignorant constitute our rude workmen, while those whose minds have been disciplined and trained as well as their hands become skilful.

The introduction of machinery is producing a revolution in all the ordinary trades. Whatever can be done without brains is being done by the brainless machine. For all kinds of work so uniform in its character that there is no occasion for the exercise of discrimination and judgment, the machine can do much better than man. It is uniform in its movements, and the results are uniform. The machine does not lessen the demand for labor; it only changes the character of that labor. It makes labor more dignified and respectable. It does that which it requires simply brute force to accomplish, and leaves for man only that which calls for the exercise of his superior mind. One machine may be made to do the work of several men. If these men are grossly ignorant, the chances are they will be unable to adapt themselves to this change of circumstances by doing some other kind of work, and thus, because of their ignorance, they are thrown out of employment. That machine, however, has created a demand for at least an equal number of workmen, but they must possess more intelligence and more skill. It came into existence through the inventive genius of a superior mind; it was made by skilful workmen; it requires intelligence to tend it and keep it in repair; some one must prepare the work for it, and some one must come after to finish, care for, and dispose of the product of its movements.

The use of machinery must increase until every species of labor which requires simply physical strength, without intelligence, will be done by some combination of the mechanical forces. The better portion of the laboring class, instead of regretting this change, should rejoice to see it brought about. It is only rude, uneducated labor which has anything to fear, and if we can convert this into that which is skilled and educated, we have taken from labor that which degrades and given to it that which dignifies. The laborer who shows you in the article he produces the stamp and evidence of his own intelligence, if that which he has made is the result, in some measure, of his own thoughts and genius, commands your respect. What he has made has been a source of pleasure to him, and he takes pride in the thought that it will be a source of gratification to others.

That system of education is best which trains the hand to some useful employment and the mind to intelligent activity. Headwork and handwork should go together. We need scholarly workmen as well as expert scholars. When the fingers become obedient to the will of a presiding

intelligence, they are the interpreters of thought. It is essential to the highest prosperity of the country that workmen shall advance in intelligence with all other classes in the community. In this connection the important question arises, How shall we supply the demand for skilled labor?

APPRENTICESHIP.

Apprenticeship as it was known in this country twenty years ago now scarcely exists. The American youth are not learning trades. The decay of apprenticeship is undoubtedly due to the fact that, as a system, it alone is not of such a character as to furnish skilled workmen. The principal reasons are the following:

First. The young man seeking to learn a trade may be apprenticed to an inferior workman, and the pupil, like the teacher, becomes a bungler. If the master is not a skilful workman, it is scarcely within the range of possibilities that those placed in his charge will become such.

Second. The employer is frequently too much engrossed in the general management of his business to give much attention to the training of the apprentice, and the journeyman frequently entertains a feeling of jealousy. He does not consider that he is under any obligation to teach his own peculiar methods and thus increase competition with himself. Thus the apprentice is left too much to himself. He acquires bungling ways of doing his work, and these ways not being corrected become habits.

Third. If the apprentice becomes skilful in doing any particular kind of work belonging to the trade he is learning, the master is likely to keep him busy at this, because he finds it more profitable, and thus other operations are neglected.

Fourth. The apprentice receives no mental training. As has already been remarked, to make a skilful workman the mind must be educated as well as the hands. The educated workman requires little supervision; he readily comprehends instruction; he reads valuable works pertaining to his line of business; he adopts new methods with ease; he knows the nature of the material with which he works; he has a clear comprehension of the results he desires to accomplish, and his efforts are directed by intelligent judgment.

Apprenticeship is almost as much a thing of the past in Europe as in this country. There, however, something better has taken its place. Schools are everywhere established where the trades are taught. These schools are adapted to the industrial wants of the localities where they are situated. There is scarcely a city or town in Europe in which there is one prevailing industry that has not its school where that specialty is taught. There are schools for weaving, for glass making, for pottery making; for carpenters, for machinists, for cabinet makers, for clock and watch makers, for lace makers, for jewelers, &c., through the entire range of industries. In these schools a portion of the time is given to labor, under the constant supervision of skilled workmen, and a portion

to the study of those subjects which are closely allied to the industry taught. Drawing occupies a prominent place in all of them.

While the apprenticeship system as the sole means of learning a trade is rapidly disappearing in Europe, a modification of that system to include technical instruction is common. Both in Germany and Austria, employers in all large centres of industry contribute toward the support of technical schools and they offer inducements to their apprentices to attend. It is quite common in Germany for the masters to stipulate in the indentures of their apprentices that they shall attend these schools a certain number of hours every week. An important law prevails there, which makes it necessary for a workman to receive a master's certificate before he can take an apprentice. In Austria the law is such that every apprentice is obliged to attend an evening school for technical instruction at least one year during his term of indenture. A similar division of the time of the apprentice between the school and the shop is also quite common in France and England.

The present demand for novelty and variety in design and ornamentation is so great that every nation and every age are placed under contribution. The style of ornament peculiar to the Chinese and Japanese is eagerly sought for; the enormous numbers of articles brought by the Prince of Wales from India furnish almost an endless variety of forms and figures for ornament; the late discoveries made by Dr. Schliemann at Mycenæ have furnished designs of great value; Egypt and Persia contribute styles two thousand years old; Etruscan vases are copied. To adapt all these various styles of ornamentation to modern uses requires ingenious artisans.

We are willing to pay for that which affords pleasure to any one of the five senses; we will pay the most, however, for that which pleases the eye. Addison observes, in one of his essays, "Our sight is the most perfect and delightful of all the senses." "There is nothing," he remarks in another essay, "which makes its way more directly to the soul than beauty." The commercial value of beauty is without limit. The value of raw material is increased in exact proportion as skilled labor is expended upon it in the production of articles of use and beauty. This increased demand for artistic work is seen in all branches of industry, and it is evidence of a higher culture of the American people and of an increased appreciation of the beautiful.

TECHNICAL EDUCATION IN THE PUBLIC SCHOOLS.

No attempt, in my judgment, should be made to ingraft a course of technical instruction upon the public school curriculum. Technical instruction requires the workshop: the introduction of manual labor into our public schools would be exceedingly unwise. The period children usually attend public school is between the ages of six and sixteen. Here are ten years given to the public school to accomplish its mission, and there is quite enough for it to do without enlarging its sphere. The

studies comprehended in the ordinary school course are fundamental and important, and should be mastered by all. The mind is susceptible of training sooner than the hands. The child has learned a language before he is five years old, and at the age of ten he may become a good reader. At the age of twelve, if properly taught, he is quite expert in figures; he can describe much of the surface of the earth, and has considerable knowledge of other subjects. But little could be done during this period in teaching the child the skilful use of any of the tools required in shaping wood and iron. The attempt to teach the child a trade during the years belonging to the ordinary public school course must prove a failure. His mental training is greatly interfered with, and nothing is accomplished in technical instruction that could not be done with far better results after the public school course is completed. The child who expects to commence a course of technical training at the age of sixteen, needs all the mental culture in the fundamental branches of knowledge which the public school can give him before he reaches that age.

A child after leaving the public school is better able to choose the trade he proposes to follow than before. At school he may be taught the printer's trade, and after he leaves it he concludes to learn the art of manufacturing silk goods, which he desires to follow as his business of life. It would have been much better for that young man if the time given to setting type in school had been spent in acquiring a more thorough knowledge of arithmetic, geography, and grammar, for they all are more closely related to the business he has selected for himself than the art of printing. Let the public school, therefore, fulfil its mission; let all the children gathered therein receive the best mental training the most competent teachers can give them, and then let them have the advantages of such technical instruction as will best prepare them for some useful occupation in life.

DRAWING.

Although technical instruction requires special schools, there is one branch of study which underlies all the mechanic arts, and which can and should constitute a part of public school education—this is drawing. A knowledge of drawing is important for every one, including professional men as well as mechanics. Its practical uses cannot be enumerated. Little children are usually fond of the exercise, and nature seems thus to suggest early instruction in this branch. It should be continued as a daily study, if possible, throughout the child's entire public school course.

This subject receives much more attention in the schools of Europe than in those of this country. In all technical instruction it holds an important place, and those who intend to be artisans devote one-fourth of their time to this branch. No class of special schools in Europe is so numerous as those in which art as applied to industry is taught. In

Belgium, a country with a population somewhat greater than that of the State of New York, there are no less than 319 such schools. In France the number reaches nearly 1,000. In Paris there are several hundred. Nearly everything in the mechanic arts is made from a drawing. The building, the bridge, the machine, &c., must be drawn upon paper before their construction begins. Not only is a knowledge of drawing necessary for the draughtsman, but the workman must understand the art, otherwise he is unable to interpret the drawings which are placed in his hands.

The artist who produces an original design or ornament, one which pleases the eye, is a producer. He has given us something which before had no existence. That something has its value. A piece of carpet or a lace window curtain with rich designs interwoven will command ten times the price of others which, although just as serviceable, are without ornament.

Not only is the artist needed to furnish designs for expensive wares, but even in the manufacture of the cheapest goods there is a constant demand for new patterns and figures. The lady in humble circumstances who buys calico for her dress and pays five cents a yard selects that which in color and design best pleases her eye. The same discrimination is made in purchasing wall paper which costs ten cents a roll.

That which is recommended as an important branch of study in our public schools is what is known as industrial drawing or art applied to industry. It is quite different from the kind of drawing too frequently taught, which consists simply in picture making. A printed picture is placed before the child, and he is required to copy it. While it is possible that some benefit may result from this practice, it is extremely doubtful if the good accomplished is a fair return for the time expended.

SUPPORT OF TECHNICAL SCHOOLS.

Those who are benefited by the establishment of technical schools should contribute toward their support. The state is interested in the development of its industries and in making as many of its citizens producers of wealth as possible. Its true policy, therefore, is to encourage the formation of such schools by liberal appropriations. Manufacturers derive benefit from the labor of skilled workmen, and they can well afford to contribute toward the support of the schools required to train them. Such schools need not be free; tuition fees may be charged, and thus the pupils, in return for the benefit they receive, may bear a portion of the expense.

CONCLUSION.

I am satisfied that we in this country have the best public school system in the world. We furnish better facilities to the whole people for acquiring a fundamental education than any other country. There is no excuse for any of our children growing up in ignorance of the com-

mon or ordinary branches of knowledge. We have good colleges and professional schools also. Any one, after completing his public school course, can avail himself of the advantages of these higher institutions of learning, and thus prepare himself for any of the learned professions. The class unprovided for are those who should become tradesmen in some department of industry, and this class includes a large percentage of the boys attending our public schools. Their school course terminates probably at the age of fifteen. Between that age and manhood the trade must be learned, if at all. They are unable to find places as apprentices, and without trade schools to attend they are left helpless. The consequence is that they are led astray by the temptations to evil ways which naturally beset the idle during this most critical period of their existence, and thus they frequently become burdens on society.

In Europe the educational work had its beginning at the top in the founding of the higher institutions of learning, and the progress has been downward. The establishment of public schools in some of the countries is quite recent. In this country we began at the bottom by first establishing the lower schools for the public, and our progress must be upward. In this we derive an important advantage. I heard it frequently remarked while abroad that the chief difficulty they had to contend with in technical schools was the fact that the pupils too frequently came without sufficient preparation in the fundamental branches of knowledge. In this country our public schools will render important and valuable service in preparing the young for industrial training.

With the establishment of technical schools we prepare this large and important class for useful and honorable employment, and we supply the trades with skilled workmen. Thus the circle of our educational institutions will be made complete, and the obligations of the state to the whole people will be fulfilled.

The PRESIDENT began the discussion of Mr. Apgar's paper. He thought our educators should ask themselves whether our instruction has enough of the industrial element. Can we learn anything from foreign systems? Can we and should we give industrial training in our common schools? Will it be possible to introduce industrial training into our normal school courses, so that the teachers may learn how to instruct their pupils in this subject? Can we, in our graded schools, substitute some technical or industrial training for a part of the present course of study?

Mr. J. M. WILSON, of Washington, protested against Mr. Apgar's opinion as to the advisability of ingrafting industrial training on the common school system, where, more than elsewhere, habits of industry should be taught; he believed that the public school should train its pupils to be useful; he thought ten a proper age to begin this training.

Mr. BARRINGER, of Newark, who read Mr. Apgar's paper, thought it somewhat misunderstood. Mr. Apgar believes that the time given to elementary studies is better spent thus than if devoted to

acquiring manual skill with tools. The industrial schools of Europe are not public schools, as we understand the term, but technical schools. They are not free schools; no one is admitted into them till an elementary school course has been completed. Our schools should not train artisans, but should so guide our pupils' minds as to make them logical, acute, and energetic, and thus fit them to go on into business, trades, or professions afterward. Let us avoid hasty changes; the workshops of the Massachusetts Institute of Technology are an instance of a hasty and costly experiment which has disappointed our expectations. In response to inquiries as to whether there are in Europe schools for the industrial training of girls as well as of boys and at what age children enter these schools, Mr. Barringer said that Mr. Apgar's article mentioned thirteen to sixteen years as the usual age for entering technical schools. There are some schools for teaching girls weaving, lace making, &c., but they are not so common as schools for boys.

Prof. Z. RICHARDS, of Washington, thought there should be simultaneous and coördinate instruction of hand and body and brain; he believed that this training should begin very early in the child's life. Great care against overworking either the mental or the physical powers should be taken; he would alternate a half hour of mental labor with another of occupation suitable to the age and sex of the pupil.

KINDERGARTEN TRAINING.

Mrs. Louise Pollock, of Washington, D. C., then read a paper on "The free Kindergarten and Kindergarten training."

The subject of combining industrial education with the mental training given in our public schools is in perfect harmony with the Kindergarten philosophy, which aims to utilize three years of the child's life at a time when, as a general thing, he receives no systematic training whatever. The Kindergarten attempts to utilize these years in such a way that not only the child's entreaty for "something to do," or some one to play with, shall be satisfactorily responded to, but that at the same time he may also, unconsciously to himself, receive lessons with his toys which are calculated to make him familiar with the first elements of geometry, drawing, &c., together with the first important exercises in mechanical skill conducive to accuracy of execution.

While the general use of machinery relieves man of much drudgery in work, it makes greater demands for dexterity and skilful manipulation in art and mechanics; therefore the most important exercises in Fröbel's Kindergarten method of instruction are for the hands, as they are the most important tool of man. Without this early exercise, the elasticity of the hand is lost in a great measure; the muscles do not gain sufficient flexibility and strength to meet the demands of higher artistic work without an immense amount of exercise and drill at a later period of life, when time may be more advantageously employed in cultivating intellectual attainments. Then, again, nothing marks noble freedom

more than the free and graceful use of the hands and arms; a person with an untrained and neglected body uses the whole arm with awkward elbow, not knowing what to do with it; and the hands of the poor are usually stiff and clumsy, though they serve to earn their daily bread. A teacher of elocution once expressed to me her satisfaction that popular attention is being drawn to the early exercising of the hands and arms, for she had seen young men whom she was teaching try so hard to overcome the stiffness and awkwardness of these limbs that she felt the greatest pity for them owing to their lack of that ease and grace which ought to be the possession of every human being. The necessity for making use of early childhood in order to meet the demand for men and women who know and can do is making itself felt more and more. Fröbel's systematic plays and occupations not only aim at this physical training, but also at the development of mind and soul, thus preventing vacancy of mind—the worst enemy of morality and childish innocence.

So well recognized is its elevating influence on the morals of the rising generation that the Austrian Government makes attendance in the Kindergarten obligatory. The great reason why Kindergärten have not thus far been more generally adopted in our public schools and charitable institutions is the expense of the materials, &c., at first (though we can prove that this is a great economy in the end), and the lack of well trained Christian Kindergarten teachers, as well as the ignorance as to the saving influence of Kindergärten and the great amount of crime and misery their general adoption would surely prevent. This want of information exists even among those whom providence has favored with large fortunes, with which they might, like the family of Professor Agassiz, establish charity Kindergärten.

As I wrote lately to Miss Peabody, the president of the American Fröbel Union, the children of the rich need the Kindergarten even more than those of the middle grades of society, not so much because they also need the mental and physical training given in the Kindergarten, but their children are thrown more into the society of nursery maids than those of the clerk, the minister, or the artisan. These latter children may thus learn at their own firesides the beautiful lesson of self-forgetfulness, cheerful obedience, and pleasure in labor. While to the children of the poor and lowest grades their elevation is in proportion to the depth from which they have been raised, to the offspring of the rich the Kindergarten is the very paradise of childhood pervaded by love, the atmosphere of heaven. But while we are waiting for the public mind to awaken and demand the free Kindergarten, would it not be well to make a beginning by giving to the young ladies in our normal schools (or at least to half of them) three or four lectures a week in the theoretical and practical application of the Kindergarten philosophy, which seeks, through systematized play and occupation, to educate the mental, physical, and moral or affectional nature of the young child with equal care, for are they not of equal importance?

Many valuable reforms have already been adopted in our public schools, and if we should give to the normal scholars the Kindergarten training, they would be enabled to introduce some of its valuable features into the present school system; thus, when the Kindergarten finally becomes a free institution, we should have a corps of trained teachers all ready to enter upon their field of labor.

The blocks, both cubes and oblongs, as well as the sticks, the Kindergarten drawing, and some of the other occupations would form an admirable substitute to occupy the time now given to primary arithmetic. The lessons would not only be more simple and pleasing, but would lead to a clearer comprehension of numbers also. Another hour devoted to the cultivation of the child's moral and physical nature by means of musical movement plays, stories, or learning of verses, &c., would still leave an hour or more to reading and writing, which is enough for a child to study during his first year of school. The experiment of combining Kindergarten methods with the primary school instruction was successfully tried in Allston, Mass., by Miss Susie Pollock, of Washington, who received her Kindergarten training in Berlin, Prussia, in 1869, and with myself is now associate principal of the Kindergarten Normal Institute of Washington. This school at Allston grew to be such a centre of attraction that every available place was filled with little pupils (eighty). But the insufficiency of the remuneration for the amount of work done, without assistants, led Miss Pollock to give up this school to come to Washington, where a larger salary was offered by private individuals.

The problem of expense has been satisfactorily solved in St. Louis, where 50 free Kindergärten are in successful operation. The salaries range from $500 to $800 a year. The teachers are not appointed by the school committee, but by the lady from whom they received their diplomas, and who is therefore best able to know their qualifications. The assistants in these free Kindergärten are not paid; they are either graduates or students who are very glad to obtain practical experience in teaching. Many mothers also volunteer to assist, for the sake of learning through apprenticeship how to use the system in their own families. The St. Louis school committee affirms that to have added the Kindergarten to the schools already provided proves an economic measure, not only by inducing habits of regularity and industry, but also because it has been proved that the Kindergarten saves two years of the primary school work and gives two additional years to the grammar school period; an important fact, when it is taken into consideration that nine-tenths of the children have only three years of school at most, and, if they can have the Kindergarten, they will have four or five years of school life.

Let us not object, then, to the introduction of public Kindergärten on economic grounds; for the arts and industries of our country will undoubtedly receive a new impetus, through the taste thus acquired

for symmetry, the practical application of numbers to things, and the familiar handling and use of the fundamental forms in geometry, with the clay modelling, and the second gift, the sphere cylinders and cube, as well as with the play with all the various triangles, &c.[1] There can be no doubt that much of the money which has to be expended for reform schools now will be saved to the State; for the people's Kindergarten will prevent crime, and prevention is always better and cheaper than cure.

Dr. JOHN D. PHILBRICK, of Boston, after alluding to the different extreme views expressed in the two papers just read and during the discussion following, said that he thought it a mistake to refuse to do anything for a child's education until he is sixteen years of age. Referring to the limit of fourteen years of age, often fixed as the end of common school life, he ascribed the selection of that age to the fact that a law was passed in Massachusetts many years ago providing for a census of the school children between the ages of five and fifteen. That circumstance has led many to suppose that fifteen was assumed as the time at which the common school life should end; such, however, is not the case. He did not think that trade shops could be introduced into schools where pupils are not more than fifteen or sixteen years of age; the venerable Dr. Wise, who was thoroughly conversant with the subject, did not think so either. Without applying or wishing to apply what he was about to utter to any gentleman present, he would say that theoretical discussions of such a topic as this surprised him. Is there a single school in this country in which trades are taught? He doubted it. Are such schools common abroad? He doubted it. Last summer he read a long article in a Philadelphia newspaper describing a common school in which industrial trades are taught, the writer intimating that schools of the kind are common in Paris.

Dr. Philbrick also alluded to the scheme for a "developing school," advocated by a Boston gentleman, the purpose of which he could not learn even from those favoring the idea. These he mentioned as theories; he would add that the common schools are often injured by the hasty and injudicious remarks of distinguished men. Some time ago

[1] See "Education by Hand," in Harper's Magazine for February, 1879. "The system in use in the Massachusetts Institute of Technology at Boston runs through all practicable courses, and rests upon the doctrine that the education of the hand is coördinate with the education of the mind. * * * What, then, would be the natural relation of handwork and headwork? Plainly, as the faculty of observation precedes that of reflection, the student in the earlier part of his course would use his hands and his eyes more — that is, would give a larger proportion of his time to any manipulatory work than in the later processes. * * * The public schools give a mental training which ought to make one a better workman who waits until he has passed through them before applying himself to an art, yet the public schools foster also a disinclination to manual labor. * * * Manual instruction as an element in common school education finds a singular alliance with the Kindergarten method, which is also passing through its experimental phase, and demanding recognition in our public schools."

the whole country was informed that Mr. Wendell Phillips had charged the schools with sending their pupils into the world without the ability even to read. On asking Mr. Phillips why he had said this, he learned that a servant girl in the family had been found unable to read. Whether the girl had ever been to school at all was doubtful; but this remark was quite as well founded as many others reported in the papers.

Before making sudden or sweeping changes in our subjects and methods of instruction we need more information. There are great practical difficulties in the way of any attempt to teach trades in schools. The school in the Rue de Tournefort in Paris is an example of faulty theory resulting badly in practice. He saw there boys of twelve or fourteen who were trying to use planes and sledgehammers which they were not able to handle, and weakly girls who were wearing out body and brain in labor entirely unsuited to their age and condition. It was all wrong.

After alluding to various other theories, respecting the non-use of text books, the reform of spelling, &c., Dr. Philbrick concluded by hoping that the department would devote itself to the live questions of the day, such as the wisdom of the common practice of selecting teachers for short terms of service, &c.

Mr. JOSEPH M. WILSON thought the union of industrial with common school education inevitable at an early day, and therefore eminently a live question.

After a few general remarks,

Mr. BARRINGER, of Newark, N. J., continued the discussion. He believed in the truth of Mrs. Pollock's remarks about the importance of Kindergarten training as an aid in subsequent industrial training, but he feared that the movement was, in many places, in the hands of immature and injudicious girls, who understood neither their work nor themselves. He thought the only practicable solution of the problem at present is to advocate the teaching of useful and beneficial things, such as drawing; and he told how, in his own city, the introduction of lessons in drawing, on two days of each week, in place of the usual writing lesson, has so vastly improved the writing of the pupils that it has excited universal and favorable comment.

Dr. PHILBRICK remarked that the industrial teaching in the Massachusetts Institute of Technology at Boston was directed to training the boys to use tools, but not to learn trades; this is entirely practicable, but perhaps not advisable if the funds are insufficient.

Mr. JOSEPH M. WILSON insisted that a school combining industrial with ordinary training is in operation in Paris. The advocates of this scheme wished to train the physique as well as the mind of the child from an early age.

Dr. PHILBRICK said that it is not practicable to teach boys under fourteen the carpenter's or the blacksmith's trade.

Mr. WILSON said that just as class rooms are now used in which to teach reading, writing, &c., they might be used to teach carving, model-

ling, drawing, setting type, weaving, &c. Of course this would be expensive at first; but it would produce better results. Out of 10,000 persons committed to reformatories and penitentiaries in Pennsylvania, 8,000 could read and write; but only 560 had received any industrial training of any sort.

Dr. PHILBRICK admitted that carving and drawing are fit subjects for instruction; he had perhaps not caught Mr. Wilson's meaning at first. The present difficulty is that we do not have teachers or means for teaching drawing, modelling, &c.

After further remarks by Messrs. Luckey of Pittsburgh, Deery, Dixon of Allegheny City, and Maris of the West Chester (Pa.) Normal School,

President WICKERSHAM said that the penitentiary statistics quoted by Mr. Wilson need explanation. It had been asserted in the newspapers that the teaching of the public schools does not tend to prevent but to produce crime, and that most of our criminals have been pupils of the common schools. He had investigated these statements and the statistics quoted, and had found that these criminals who were reported able to read and write could barely do so; many thought they had attended school somewhere, at some time, perhaps for a few days or weeks; surely the conclusions drawn from such data are wrong. He next sketched the proposed State home for neglected and friendless children; this is to have twenty acres of land attached thereto; there are to be shops also. The question of guarding against idleness and crime is one closely connected with the question of preventing ignorance. The old world had not succeeded in solving it yet. He believed that neither the school in the Rue de Tournefort nor that in the Rue de la Villette is a success.

Dr. PHILBRICK said they are not successful as yet financially. The Villette school is practicable, the other is not.

Mr. SMITH, superintendent of schools, Syracuse, N. Y., gave an interesting account of the origin and progress of the sewing schools in that city. The benevolent people some time ago found much destitution and misery; they solicited and obtained work for several hundred poor women from the merchants of the city, but shortly afterward they found that most of these persons had been discharged because they did not know how to sew. To remedy this condition of things, these poor women were invited to come to a sewing school which was organized for them, but this also failed. Then, two years ago, the ladies obtained from the city board of education the privilege of using the public school-houses of the city for an hour and a half every Saturday afternoon; the ladies supplied the teachers, and invited all girls over seven years of age who wished to learn sewing to come and be taught. This work was an immediate and growing success, and has gone on ever since. The course of instruction is from the simple and easy to the more intricate and difficult parts of the art; the success has been most satisfactory. Mr. Smith concluded as follows: The ladies who inaugurated this

work asked the board of education to take up the matter and carry it on as a part of the common school education; but for want of means we have requested the ladies to continue until we can relieve them. I wish you could come to Syracuse and see how this work is going on. This may not be teaching the trades, but it is teaching these little girls what their mothers cannot do to-day; it is teaching them the skilful use of their fingers, judgment in cutting out their garments, how to mend a tear and put on a patch neatly. It may not be teaching them tailoring, but it is teaching these girls to know just what they will want to know when they shall have families of their own. This is the kind of industrial work I favor. I am not in favor of teaching shoemaking, plastering, blacksmithing, or any other trade in the common schools, but I am in favor of teaching boys how to handle tools of any kind skilfully. Now, by the way, I think moulding a good thing to be taught in the schools, as well as drawing, how to manipulate moistened sand and work it into the best shape and form; such things as these are what we need. I believe in making the hands skilful as well as the mind.

The President announced that the hour for adjournment had arrived; and, on motion of Mr. Wilson, of Washington (at 10.10 P. M.), the Department adjourned until Wednesday at 9.30 A. M.

THIRD SESSION—WEDNESDAY MORNING.

WASHINGTON, *February* 5, 1879.

The Department met pursuant to adjournment, and was called to order by the president, Mr. Wickersham.

The PRESIDENT. I desire to announce to the Department the different committees, as follows:

Legislative committee.—M. A. Newell, Maryland; W. T. Harris, Missouri; J. D. Philbrick, Massachusetts; George J. Luckey, Pennsylvania; G. J. Orr, Georgia.

Executive committee.—J. O. Wilson, District of Columbia; T. M. Marshall, West Virginia; Isaac N. Carleton, Connecticut; L. H. Duling, Pennsylvania; W. A. Mowry, Rhode Island.

Committee on resolutions.—W. H. Barringer, New Jersey; John Hancock, Ohio; Henry Houck, Pennsylvania; Richard L. Carne, Virginia; J. H. Piper, Illinois.

Committee on invitations.—S. M. Etter, Illinois; Edward Smith, New York; C. E. Hovey, District of Columbia.

Hon. J. ORMOND WILSON, of Washington, invited all who remained in the city on the following day to attend the forthcoming meeting of the school teachers of the District of Columbia, in the Congregational Church.

At the request of the United States Commissioner of Education, the committee on legislation was instructed to examine and report upon the condition, plans, work, and needs of the Bureau of Education.

Hon. William Windom, United States Senator from the State of Minnesota, was then introduced and briefly addressed the Department.

by the Baptists, and Emory College, an institution under the charge of the Methodist Church. In order to exhibit the ante-bellum work of these institutions, State and denominational, I give the following statistics, which are taken from their respective catalogues:

Number of ante-bellum alumni.

University of Georgia	928
Oglethorpe University	280
Mercer University	229
Emory College	397
Total	1,834

These four institutions gave a partial education during the same period, no doubt, to at least twice the number of alumni enrolled in their respective catalogues, the recipients having been compelled, by various causes, to relinquish their studies before the completion of the college curriculum. They thus gave to their country over 5,500 men, more or less fully equipped for the great battle of life. I have looked carefully over their lists of alumni; and among them I find men who have filled with honor high places in all the departments—legislative, executive, and judicial—of the national and of their respective State governments; men who have shed lustre upon the learned professions of law, medicine, and theology; men who have added to the domain of science by discovery; men who have been an ornament to authorship in the fields both of science and literature; men who have been honored and successful teachers of youth, and men who have adorned the walks of private life. The numerous county academies, too, though not supported by the bounty of the State according to the original design of the fathers (receiving, nevertheless, from time to time, small contributions in the way of aid from the public fund), were enabled, through the proceeds of tuition fees, to contribute to society every year throughout the ante-bellum period large numbers of persons of both sexes with respectable academic attainments. Who will dare to rise up for the purpose of undervaluing this great educational work?

Great attention was also given in Georgia, during the same period, to the higher education of females. In 1836 endeavor in this direction received its first great impulse by the chartering of the Georgia Female College, now known as the Wesleyan Female College, an institution under the control of the Methodist Church. This was the first college in the United States, and perhaps in the world, to have the right given it of conferring degrees on women. This mother of female colleges sent forth, in ante-bellum times, bearing her diploma 456 alumnæ to adorn and elevate and bless society. The founding of other similar institutions followed in rapid succession till the number rose to nearly twenty. I cannot give the number of alumnæ of any of these, as the necessary data have not been within my reach. I can, however, make this state-

ment, that I once had occasion to make some investigations upon this subject before the recent war, and I satisfied myself that there were, at that time, in actual attendance upon these higher institutions for the education of women in Georgia upward of sixteen hundred pupils.

ELEMENTARY EDUCATION IN GEORGIA BEFORE THE WAR.

What shall I now say of elementary education? I am well aware that I now approach much the weakest point in our system. By elementary schools I mean schools in which were taught spelling, reading, penmanship, arithmetic, and sometimes English grammar and geography. Schools of this grade were the sole reliance throughout the rural districts in my State for many long years. The men who taught them were often incompetent—being sometimes without natural capacity, attainments, or aspirations—and now and then even persons of bad morals. There were among them no teachers' institutes or associations, no circulating libraries, no educational periodicals—in short, nothing approaching the modern appliances provided with a view to professional elevation. There was no examination of teachers, no issuing of license as a condition precedent to obtaining a school, and no supervision. Every teacher was isolated, entirely dependent upon his own ability to modify methods or originate better ones, and completely and absolutely independent in the little realm over which he held sway. The obtaining of a school was entirely a matter of contract between the person offering himself as teacher and his proposed patrons. The latter were often utterly incompetent to judge of the teacher's qualifications, and hinged their acceptance or rejection of him solely upon the rates at which he offered his services. A vivid picture of one of the more harmless of this class of "old field school-masters," as they were called, is drawn in the person of Michael St. John, in the "Georgia Scenes," a book of infinite humor, written by my venerated and revered preceptor, Hon. Augustus B. Longstreet; while a type of the more brutal class is given us in the character of Israel Meadows, of the celebrated Philemon Perch Papers, of which Col. Richard M. Johnston, now of Pen Lucy Academy, near Baltimore, is the author.

The State did not propose to make even these inferior schools free. I have already mentioned the fact that the sum of $250,000 was set apart in 1821 as an academic fund. The same amount was appropriated in the same statute for the education of the poor, which, added to a former appropriation of $200,000 for the same purpose, made the sum of $450,000. This large fund (large for that period) was invested and the annual proceeds, amounting to from $20,000 to $30,000, were devoted to the payment of the tuition of poor children. It was not the policy to establish separate schools for these indigent children. Such teachers of the academies and of the inferior schools that I have already sketched as were willing to submit to an examination, which was often a mere matter of form and conducted by incompetent examiners, were

entitled, if approved, to receive their pro rata of the public fund for teaching any children adjudged by certain magistrates as belonging to the class known as "poor scholars," who may have entered their schools. I need not say to this audience that this so-called system had no system in it, that it was full of defects, and that it was lacking in a hundred of the elements that make up an efficient public school system. Still it answered a valuable purpose in its day. It placed the elements of an imperfect English education within reach of the entire white population, among whom the means of comfortable support were so general as to be well nigh universal. You will better understand this declaration when I tell you that I have spent my entire life in Georgia, and up to the late war I never met, to the best of my recollection, in city, town, village, or country place, a single southern born person asking alms. As to the comparatively small indigent class, what the State may have failed to do for them, the teachers would most gladly have done gratuitously, for, in whatever else they may have been lacking, they generally had kindly hearts.

The colored people, as is well known, we never sought to educate, and indeed the education of this class was finally prohibited by statute, under what I then believed the mistaken impression that this policy was necessary to our domestic security; and viewed from the standpoint of statesmanship alone, it cannot be shown that the State ought to have provided for the education of this class of the people. Education by the State rests upon the sole basis of self-protection. Under the constitution and laws as they then stood the colored people constituted no part of the body politic, and therefore it was no necessary part of statesmanship to provide for their education. Viewed from a moral and religious standpoint, the entire subject is seen in a different light. We are essentially a Christian people, and the belief that the Bible is a revelation from God may be said to be a national belief. Holding this opinion individually and believing that book to contain the only rule of faith and practice for the moral government of human beings, I always thought that no man should be denied intelligent access to it, and large numbers of my brethren at the South shared this conviction.

I have now put plainly before you the whole of educational endeavor in Georgia in ante-bellum times, both in its conception, as that conception found expression in the different constitutions and the laws, and in its execution, as that execution is represented in the work actually done in the schools of both the higher and lower grades. In doing this I have put before you much more vividly than I could have done in any other way the ante-bellum educational work of the South; for what was done in Georgia is about the same as that which was accomplished in every other Southern State. In the name of my southern brethren I am willing to admit that our inferior schools were indeed *very inferior*, and that in this grade of work we were far behind the older States of the northern portion of the Union; and truth requires the further admission that,

in the higher education, we were not the equals of the States that have given us a Harvard, a Yale, and a Princeton. Yet we were not so far behind in this higher grade of education as many persons have imagined, if we may judge from a single comparison, a comparison of the men in public life who were the products of this higher education in the two sections; for, as long as the truth of history is written, it will be recorded that the men of the South exerted a controlling influence in the national councils for more than half a century of our history.

EDUCATIONAL CHANGES EFFECTED BY THE WAR.

I come now to speak of the new era, the post-bellum period. It would be very difficult for me to put before you anything like an adequate view of the changes wrought by the war. No one, who was not of us, can ever be made to realize their magnitude. I think I may safely say that the history of civilization furnishes no parallel. Let us glance for a moment at some of them. A large portion of the population, in some of the States more than one-half, which had been held by the other under the constitution and laws as property and which made up the bulk of the wealth, was set free in a day. Millions of dollars' worth of other property was destroyed; and that which was left, including the real estate, had no exchangeable value, from the lack of purchasers. The entire currency of the country was blotted out, so that thousands of good citizens did not possess so much of current funds as would buy a meal's victuals or even pay the postage on a letter. The business of agriculture, always the main reliance of the people, was put in what seemed to be a hopeless condition by the derangement of the labor system and by the total inadequacy of the appliances of farming left on hand, such as farm animals, farm supplies, and agricultural implements. Thousands of persons living upon salaries or by the wages of labor, often without a week's subsistence on hand and having large families dependent upon them, were left without employment or the hope of obtaining it.

Great as were these changes in our material condition, they were not greater than the political changes to which we were subjected. At first we were told that we must make certain alterations in the fundamental law of the different States before these States could be restored to their former relations to the General Government. We had not been accustomed to make changes in our organic law at the suggestion of an outside power, but we obeyed. We had not been long thus reconstructed till reconstruction was itself reconstructed. The new governments set up were as speedily pulled down, and we were required to form others. The law providing for the forming of these new governments, a law in the passage of which the South had no voice, enfranchised the recently liberated slaves—who were, as a rule, wholly illiterate—and disfranchised very large numbers of the most intelligent and virtuous of the

white population, thus practically reversing, to a large extent, the relative status of the two races.

But it is with the effect of the changes of the war upon the progress of education in the South that I have to deal in this discussion. Most of the States of the South, in adopting new constitutions under the reconstruction acts, incorporated into the fundamental law the public school policy. I must say of the educational provisions of the constitution adopted at that time in my own State, that they were a great move forward. Notwithstanding the mass of ignorance which made up the great body of the convention, it was our good fortune that a few men of great ability and of true statesmanship had found their way into it; to these, doubtless, we owe the wise educational policy then adopted. Not only were constitutions which provide for public education generally adopted, but in every State in the South the attempt has been made to inaugurate a school system under laws passed in accordance with the new constitutional requirements. I propose now to refer briefly to some of the great obstacles that stood in the way of the success of this attempt. I have already referred, in a general way, to the utter wreck of material resources which the South had suffered. I will now give, not only the view of this wreck as presented in reliable statistics, but a further view from the same standpoint of the immense increase in the number of helpless illiterates to be provided for educationally in the new order of things. By the census of 1870, the entire property of the States of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia (Southern States) amounted to $3,553,757,000; while the census of 1860 shows the same aggregate, at that time, to have been $5,426,041,724. It will thus be seen that the value of all property in the fifteen States named was in 1870 only about three-fifths of such value in 1860. The population of these same fifteen States was in 1870 as follows: white, 9,275,856; colored, 4,472,684. It will thus be seen that nearly one-third of the people of these States, at that time, consisted of recently liberated slaves, owning little, if any, taxable property. Add to the number of freedmen the number of whites impoverished by the then recent war, and the number thus found destitute of material resources would, in all probability, equal one-half of the entire population.

By taking an area of less extent, I am enabled to make a much stronger case. The aggregate value of property in the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas (cotton States) in 1870 was $1,404,487,468; while the same aggregate in 1860 was $3,294,241,406. The population of the States just named in 1870 was, white, 3,896,280; colored, 3,103,800, the colored population being nearly equal to the white. From these figures I feel justified in saying that, while the taxable property of these States was only about three-eighths of what it had been at the begin-

ning of the preceding decade, the non-taxpayers must have been very nearly two-thirds of the entire population.

OBSTACLES TO BE OVERCOME IN EXTENDING ELEMENTARY EDUCATION.

I have now put before you, in the vast increase in the burden to be borne and the great diminution in ability to bear it, the greatest of the obstacles to success. There were others, however, to which I must briefly refer. From the sketch of educational achievement in the South in ante-bellum times given in the first part of this address, it will be seen that we had no such thing as public schools among us. Our people had a way of their own of accomplishing educational results, and in this way they were pretty firmly fixed, and, like all other communities where the controlling element is of Anglo-Saxon origin, they are very slow to make changes. This slowness to change is at the foundation of the conservatism everywhere prevailing in southern society, and, when not too persistent, it is an invaluable element of character.

But there was not only among the people a simple indisposition to change—there was a lack of the knowledge upon which rational change is always based. Few intelligent men among us had studied the philosophy upon which education by the State rests, its absolute necessity in order to self-protection, its greater universality, its cheapness, and consequent adaptation to an impoverished people, and its superiority as a result of intelligent supervision. These thoughts are now taking possession of the minds of thinking men, but till this result could be brought about it is very evident that no real progress could be made.

Another hindrance to success was not so much opposition to public schools as opposition to the manner in which the public school policy had been ingrafted upon the fundamental law.

I have already sketched the manner in which the new constitutions originated in the Southern States at the close of the war. It is only necessary to place the facts in this sketch before an audience of fair-minded citizens in any portion of the Union in order to enable them to understand how intelligent, virtuous, patriotic citizens could feel not only opposition but even aversion to a measure, intrinsically good, in consequence of the manner of its adoption. That this was the ground of much of the opposition, I know from intimate association and contact with all classes of citizens at the South.

I now approach another hindrance which has been much misunderstood, and which I am happy to have the opportunity of presenting in a truthful light before an audience like this. The hindrance to which I allude was the presence among us of so large an element of persons of African descent. It has been thought by many people at the North that the white people of the South entertain feelings of actual hostility toward this race of people. You will allow me to say, in all candor, that no greater mistake has ever been made. It is true that this feeling has prevailed to some extent among the more ignorant and illiberal of our

white population; but the more intelligent and virtuous, constituting the bulk of our white citizens, are strangers to it. We understand this people too well and owe them too much to entertain feelings of hostility toward them. They nursed us in our infancy, were our playmates in childhood, and in manhood they were our domestics and field laborers. They watched over us in sickness, closed our eyes in death, and shed tears at our burial. During the four years of fratricidal strife, when the whole South was a military camp and every able-bodied white man a soldier, they cultivated our fields, protected our families, stood faithfully by us in the presence of armed foes, and wept with us over our brothers and our sons who fell in the deadly conflict. God forbid that we should ever forget the service they rendered us in the hour of our greatest trial! You will believe me, then, when I tell you that it was not hostility to this people that made their presence among us an obstacle to the successful introduction of public schools. I will endeavor to state clearly and briefly one or two of the grounds that made them a hindrance. I have already spoken of the general destruction of the property of the white population. Out of the remnant left them from the wreck very few of them were able to make adequate provision for the education of their own children. Is it surprising, then, that they should feel it a great hardship that they were required also to make provision for the education of the children of those who had themselves, by the laws of the country, constituted a large portion of their wealth? This feeling of hardship was one of the grounds of hindrance.

Another ground was a feeling of uncertainty in the minds of many intelligent men as to the probability of ever making good citizens out of the materials which this race furnishes. Even those among us who are now the strongest advocates of universal education understood this people too well to say that there was not reasonable ground for this doubt. We knew that, in all the history of the past, they had never accomplished anything great intellectually. They had never established anything like regularly organized governments, or enlarged the boundaries of knowledge by discovery, or made any valuable contributions to literature, or increased the productiveness of labor by useful inventions. In their own country they had always been mere savages; when brought here, notwithstanding their bondage, they were greatly raised in the scale of being. Contact with civilization and the labors among them of the different Christian churches did much for them; their moral elevation was greatly retarded, however, by a general lack of anything like true home life among them. God, who made us and knows all that is in us, has appointed the family as the great agency for the moral and intellectual elevation of the race. While many humane masters were always ready voluntarily to make large pecuniary sacrifices rather than be guilty of the great wrong of breaking up families, the different Southern State governments made the great mistake of failing to extend over these home relations the ægis of their protection. These

causes had made the colored people what they were intellectually and morally, and their condition, in these respects, afforded, as I think, reasonable ground for the doubt entertained.

I am glad to say that these hindrances, so far as they rest upon long standing habits of thought, upon lack of information in respect to the new educational policy, upon the violent innovations on established modes of framing organic law, and upon speculations in reference to questions of race, have well nigh disappeared. The people of the South have consented to give up the old and try the new; they have studied the philosophy of the modern educational system, and many have studied with approval; they have dismissed speculative theories and have accepted what they now consider accomplished facts. The most convincing proof of these declarations is found in the fact that constitutions conforming to the new ideas are generally being adopted throughout the South by conventions in which men of the old school hold absolute sway, and an honest effort is being made everywhere throughout that entire section to educate all the children, irrespective of race. The greatest obstacle of all, that to which I first alluded and to which I now again refer, still remains, viz, our poverty and the vast number of the helpless thrown upon our hands. Out of this hard, stern fact grows the great, the overshadowing need of the South at this time, viz, more means. True, there are other needs. We need a deeper and more general public interest in education than can be excited among a partially educated population. We need a more intelligent comprehension of our educational situation than can be found among our rulers. We need a much larger and more enterprising body of thoroughly qualified teachers for both our white and colored schools, and especially for the latter. We need very much an adequate number of well endowed, well manned normal schools for keeping up this supply of well trained teachers. To these and similar topics the minds of some experienced educators would doubtless have turned in presenting my theme. But our need of means, the great, the ever present, the all pervading need, which for years past has been resting upon my mind, and blocking up the way to success in every grade of educational effort, whether in the college, the high school, the academy, or the common school, took possession of my mind when I entered upon this discussion; and I could not refrain from such a statement of historic and other facts and such a train of thought and argument as might enable me to bring out this one great need in all the weight of its overwhelming emphasis.

A few more thoughts now and this hour's work will be done. I have said that the people of the South are making an honest effort to educate the children of all classes, irrespective of race. I might have made that statement stronger. I might, with truth, have characterized the effort as heroic. Solomon says, "He that ruleth his spirit is better than he that taketh a city;" if the spectacle of self-conquest in an individual is sublime, what shall we say of the spectacle when a whole people

place themselves in that attitude? And this is the attitude of the South to-day. We have presented our shoulders to the burden placed upon them; but while we have been bearing this burden as best we could, in silence, we have felt, all the while, that it was not all ours. It was put upon us as a result of the war, and we feel that the whole country ought to aid us in bearing it. You are ready to ask, why refer to a topic like this in the presence of a body with no power to act? The men sitting here, and the thousands of intelligent men in all parts of the country whom they, in some sense, represent, can make themselves felt with a body that *is* potential. It is for this reason that I have touched upon this topic. Having now unburdened my heart of what I, in common with multitudes of the best men at the South, have long felt, I now leave the subject with you.

At the close of the prepared address, the speaker begged leave to make some additional statements. He said he regretted that he did not have the statistics from all the States of the South which verify the statement that these States are now making an earnest effort to educate the children of all classes. He desired, however, to give the Georgia statistics. Public schools were first put in operation, in that State, in 1871. In 1872 the school work was interrupted in consequence of a previous misapplication of the school fund. There have been enrolled in the schools in the successive years since the beginning of the work as follows:

Year.	White pupils.	Colored pupils.	Total.
1871	42,914	6,664	49,578
1873	63,922	19,755	83,677
1874	93,167	42,374	135,541
1875	105,990	50,358	156,348
1876	121,418	57,987	179,405
1877	128,296	62,330	190,626
1878	138,000	73,000	211,000

In the cities, the schools are kept in operation for ten months of the year. In the rural districts, he regretted to say that they are kept open only for three months; and the school fund is so small as to be inadequate to pay all the expenses of even this short term.

Dr. PHILBRICK hoped that Dr. Orr's paper would be referred to the committee on legislation with a view to bringing the matter to the attention of Congress, which is the only source from which help for the South in this emergency is possible.

The PRESIDENT suggested that Dr. Orr's paper should be printed and widely distributed by the Bureau of Education.

Hon. JOHN HANCOCK, LL. D., superintendent of the Dayton (Ohio)

The following revision of the remarks of Dr. Harris was received too late for use at the proper time. It is therefore inserted in its present shape:

Hon. WILLIAM T. HARRIS, LL. D., of St. Louis, said: I did not come prepared to make a speech. I must say, though, that I feel a deep interest in the paper of Dr. Orr. I paid a visit last summer, and it was my first visit, to Georgia, to attend the State meeting of teachers. I also visited Tennessee, and had a great many talks with men who identify themselves with education in the State, and I have done considerable thinking on this subject myself. Now, I am thoroughly in favor of local legislation. Every place should govern itself in so far as its interests can be bounded by the lines of locality. As soon as these extend beyond its boundaries and become common interests, then it must be governed by the laws of the whole nation. A locality may govern itself as far as its own interests are concerned; but as the interests become more general in character, it must be governed by the will of the larger community; and I think the Government could not do a wiser or a better thing than to determine the policy of all the States in reference to education. The great point is that Congress shall take all its lands now on hand and hereafter to be obtained and devote the proceeds therefrom to the creation of an educational fund, under the control of the United States, the fund then to be divided among the States in proportion to the amount of illiteracy in them; and, since the effects of the war have entailed so much illiteracy upon the Southern States, let them get the largest proportion of the fund. This educational interest is one that affects the whole country, and it should be settled in a national way.

Dr. HARRIS. I would support that motion, and desire to point out in what respect we need a correction of the schedule on which the census is based. General Francis A. Walker, who has had the census in charge, is well known to be a competent man for the position. He has prepared very interesting tables in respect to the sociology of the United States and other important matters. But there is one direction in which his labors could be made much more available to us in our school interests, and that is in the way of furnishing us the means of correcting local censuses. These are known to be erroneous and unreliable for our purposes from many causes. One is, that the census is taken by a man who goes from door to door and inquires of the servant maid for the names of those between the ages of five and twenty-one years. He thus gets his information from an unintelligent and for that reason untrust-

worthy source. Now, the United States census is taken with the utmost care, the schedules are left to be filled out by the household, and there are so many items in them that they insure close attention, the items of ages in particular being taken with the greatest care. The school items call for the number of children less than one year old, the number at one year, the number between one and two years, the number less than three, and so on up to four years of age. They do not give the number between five and six years, or between six and seven, but they give those from five to nine years, then those from ten to fourteen, then from fifteen to seventeen, then from fifteen to nineteen, and so on. But there is no possible way of getting at the number who are of school age in any State by the United States census, because the school ages do not correspond with the ages General Walker has given. What we want, therefore, is that the schedule shall show the ages by years from one to twenty-one, male and female; and not only for the State, but for minor subdivisions, so that we can see the difference between cities and country and the relative growth of the cities. The number in Missouri, for instance, is 39,795, in every aggregate of 100,000, between the ages of five and twenty-one years; but the data for cities are not given in detail separately. Now, in St. Louis we have of school age 90 per cent. of the ratio of school age for the State; we have there more old persons; and Chicago has only about 80 per cent. of the ratio of school age in the whole State—a very interesting social point, showing the rate of emigration of the different States. We took in St. Louis, in December, a school census, and we found that it was taken so poorly and was so unreliable in its results that it gave us fewer children than the census of 1870—that is, 40,000 less population than the United States census. These remarks will go to show how important it is that the census of the United States should correct its schedule for the ages between one and twenty-one.

schools, suggested that southern members of Congress be specially urged to work for the provision desired.

Hon. WILLIAM T. HARRIS, LL. D., of St. Louis, said: I did not come prepared to make a speech. I must say, though, that I feel a deep interest in the paper of Dr. Orr. I paid a visit last summer, and it was my first visit, to Georgia, to attend the State meeting of teachers. I also visited Tennessee, and had a great many talks with men who identify themselves with education in the State, and I have done considerable thinking on this subject myself. Now, I am thoroughly in favor of local legislation. Every place should govern itself in so far as its interests can be bounded by the lines of locality: as soon as these extend over its vicinity, and become common interests, then it must be governed by common laws. So, when it is a common interest with a larger territory, I believe that the United States should lend a helping hand. A locality may govern itself as far as its own interests are concerned; but as the interests become more general in character, they must be governed by larger communities, and I think the government could not do a wiser or a better thing than to determine the policy of all the States in reference to education. This is a question that is now being debated in Massachusetts, and also throughout the West. The question arises whether we shall have a high school education or not. We want Congress to settle this matter. We want money put into a State university. Now, I do not believe you can build a high school and have no connecting link between it and the university. The great point is that the United States shall take all its lands now to be sold and hereafter to be obtained, when we get Mexico and the South American republics under our control [laughter], and sell the lands, the proceeds therefrom to be devoted to the creation of an educational fund, under the control of the United States, and the fund then divided among the States in proportion to the amount of illiteracy in them; and as long as the effects of the war have entailed so much illiteracy upon the Southern States, let them get the largest proportion of the fund. This educational interest is one that affects the whole country, and this matter should be settled in a national way. Now, the most reasonable and feasible thing is that the money should come from the General Government, from the sales of public lands, the money to be divided, as I said before, according to the illiteracy existing in each State. Congress should settle this matter, if it desires to do so, and dispose of it at once. This is a measure that has been pending before the National Legislature for years, and should be disposed of without further delay; and, if necessary, Congress should appoint officers to see that this money be properly distributed for educational purposes and divided according to the illiteracy in the several States.

Dr. PHILBRICK believed that the educational sentiment of New England is entirely in sympathy with the attempt to afford relief to the South. He thought the matter one of vital interest, and worthy of the

best thought this Department could give it. He thought educators need more courage and confidence: if we agree that a thing is right, let us fight for it.

A DELEGATE said that it is often difficult to obtain action by legislatures on educational subjects, because other matters, seemingly of more immediate interest, push them out of the way. He would ask if the southern members of Congress are favorable to the distribution of the land sales fund to the States for educational purposes.

Dr. ORR could speak in the affirmative for the Georgia delegation.

The PRESIDENT and Dr. HANCOCK combated the idea that Mr. Goode and Senator Hoar's bills for the purpose mentioned are intended to centralize the power over education in the hands of the Federal Government.

Dr. ORR said that last year he had conversed with many Senators and Representatives, and was sure that at least fifty of those he had talked with are in favor of some such measure: even some who are extreme advocates of Mr. Calhoun's views on State rights make an exception of this matter, and believe that the whole country should see to it that no section becomes weakened or degraded through the ignorance of its population.

Prof. T. M. MARSHALL, of the State Normal School at Glenville, W. Va., said that some members of Congress are very indifferent to and ignorant of such matters; others are well disposed. The Department, instead of spending so much time over matters in which members are all agreed, would do better if it proceeded to convince the public and Congress that measures relating to education are of vital importance. The only way is to put a concise printed statement before them, or to seek personal intercourse with them, whenever proper and possible, and inform them what is necessary to be done.

Mr. BARRINGER and Dr. ORR heartily concurred in advising the same course.

EDUCATION AND THE TENTH CENSUS.

Dr. HANCOCK thought the Department should do something for the better collection of facts relating to education by the tenth decennial census.

On motion of General Eaton, the subject of the census was now taken up.

Dr. HARRIS. I would support that motion, and desire to point out in what respect we need a correction of the schedule on which the census is based. General Francis A. Walker, who has had the census in charge, is well known to be a competent man for the position. He is preparing very interesting tables in respect to the sociology of the United States and other important census matters. But there is one direction in which his labors could be made much more available to us in our school interests, and that is in the way of correcting local cen-

suses. These are known to be utterly erroneous and unreliable for our purposes from many causes. One is, that the census is taken by a man who goes from door to door and inquires of the servant maid who live in the house between the ages of 5 and 21 years. He thus gets his information from an unreliable, and, in a large number of cases, an unintelligent, and for that reason untrustworthy source. Now, the United States census is taken with the utmost care; the schedule is left to be filled out by the household, and there are so many items in it that it insures close attention, the items of ages in particular being taken with the greatest care. The school items call for the number of children less than 1 year old, the number at 1 year, the number between 1 and 2 years, the number less than 3, and so on up to 4 years of age. They do not give the number between 5 and 6 years, or between 6 and 7, but they give those from 5 to 9 years, then those from 10 to 14, then from 15 to 19, then from 15 to 17, and so on. But there is no possible way of getting at the number who are of school age by the United States census in any State, because the ages do not correspond with the ages Mr. Walker has taken. What we want, therefore, is that the schedule shall show the ages by years from 1 to 21, male and female; and not only with reference to that generally for the States, but for minor subdivisions, as in other matters, so that we can see the difference in the cities and in the growth of the cities. The number in Missouri, for instance, is 39,795, in every aggregate of 100,000, between the ages of 5 and 21 years; but the cities are not given in that way. The city of Chicago is not given, but the whole State of Illinois. Now in St. Louis we have 90 per cent. of the ratio of the State; we have there more old persons; and Chicago has only about 80 per cent. of the ratio of the whole State; a very interesting social point, showing the rate of emigration of the different States. We took a local census the other day, in December, a school census, and we found that it was taken so poorly, and was so unreliable in its results, that we had less children than in 1870, and it gave us 40,000 less population than the United States census. The national census for 1870, which was so much more accurate and reliable, showed an increase of 30,000 in four years. These remarks will go to show how important it is that the census of the United States should correct its schedule for the ages between 1 and 21.

After some remarks on the undoubted magnitude of the illiteracy not reported by the census takers and on the necessity of selecting those officials with greater care than heretofore, the convention voted that a committee of three be appointed to confer with the Commissioner of Education and with the Superintendent of the Census on this subject; and Messrs. Hancock, Harris, and J. O. Wilson were appointed such committee.

The PRESIDENT read invitations for the Department from the Book-Sewing Machine Company to inspect the machine at the Government Printing Office; also from Mrs. Louise Pollock to visit her Kindergarten, at 929 Eighth street.

Prof. GEORGE P. BEARD, of the Southwestern Normal School of Pennsylvania, announced that Rev. Doctor J. H. Vincent, of Chautauqua, N. Y., had made arrangements for a teachers' institute for the last two weeks of next July.

UNITED STATES BUREAU OF EDUCATION.

The President then introduced General John Eaton, United States Commissioner of Education, who read the following paper:

My friend Dr. Wickersham has requested me to speak of the wants of the Bureau of Education; and, as you know, we have all learned that, when he is our chief, prompt obedience is the only course. I am more than willing to admit the duty of making a statement about the Bureau as complete and frank as possible to the members of this association, to whom its origin and its success hitherto are so largely due.

The administration of the responsibilities of education in the several States and cities had for some time revealed a certain lack in our educational resources; no State or city could supply it; it was not a lack of authority, for there is abundant authority vested in every State. But the need was felt of an efficient medium for the collection of educational data and their generalization and publication.

Something of what was wanted by educators had been undertaken by the General Government in reference to other subjects, especially agriculture and meteorology, and indeed in reference to education itself, by including certain items relating to institutions of learning and illiteracy in the schedules of the later censuses. The new bureau was to collect and diffuse information respecting education, not to interfere in the management or courses of study of any educational institutions. The Department of Agriculture does not direct the operations of the farmer; the census does not shape a single fact that it records; the Bureau of Education does not direct a single school that it reports—it only collects and disseminates information.

It has now been in operation nearly twelve years. Of the three years of toil and care spent in its administration by my able and learned predecessor I need not speak. To the discharge of my own responsibilities I have always invited the closest scrutiny of every one who would take time to investigate, especially of all educators.

The Bureau cannot very well make known its wants without recalling in some measure what it has done and is doing. We should not therefore forget how absolutely wanting in guides and standards were its beginnings. To aid our conception, suppose we go back to the time when there was no national report on education, and, taking up the law organizing the Bureau, examine the requirement for an annual report; and, recognizing the fact that the Office properly has no authority outside its clerical force, let each one of us for himself think what would be *his* plan for such a report.

SCOPE OF THE WORK UNDERTAKEN.

Shall the plan stop with some one phase of education—elementary schools, private schools, academies, and other schools for secondary instruction, colleges, or professional schools? Shall it, in short, *exclude* any feature of education in the country, or shall it include all systems and institutions properly classed as educational? Evidently the latter, and when the comprehensiveness of the plan is determined on, there remain innumerable questions as to details.

Many of you now here, and others in the country prominent as educators, know how these questions were settled by us nine years ago. We sought to interpret the law by the prevailing intelligent educational sentiment of the country. That sentiment, as I said before, with a unanimity that left in my mind no doubt, could not be satisfied with an annual national report that attempted to comprehend anything less than a statement concerning all the institutions and systems of education in the several States and Territories.

It should be remembered that at that date two States were without school superintendents; that even a list of State superintendents could not be kept corrected to date for even a few months; that there was no list of the superintendents of even those cities having separate municipal school administration, and that there were no lists of colleges, or of academies, or of normal schools, or of reformatories, and so on. Moreover, it should be noted that each week and month brought to the Office demands for information upon educational experience and topics not elsewhere to be obtained, often requiring extensive research and elaborate treatment. In planning the report, we are brought directly to consider the question of collecting material. The States and many of the cities published reports, colleges and academies published catalogues, and numerous school journals and educational pamphlets were produced annually. As the work of the Office was to be conducted on the historical method, manifestly all material of this kind was to be sought for the past as well as for the present and the future; thus arose the necessity for an educational library as a part of the Office. Out of the communications between this Office and the ministries of instruction in other countries in reference to education the foreign department of the library grew.

But when you have begun a collection of books about education you can hardly avoid collecting educational appliances also; often the book without the appliance is well nigh useless to the investigator; hence came the educational museum, and chiefly in a mass from the Centennial Exhibition.

We continually found that all the additional information wanted about education (which could not at that time be obtained and to collect which this Office was founded) could not be gathered from any books, journals, or reports then in existence by any means thus far devised. Bringing

all the statistics together from the several State and city reports as published for their domestic use, it was found that there was that difference in nomenclature and methods of treatment, of objects sought, and means used, that reasonably fair and intelligent comparison and inferences were possible only in a limited degree. To supply this want, the Office, as you are aware, in conference with State officers for the State, city officers for the city, presidents of colleges for the colleges, and the heads of different classes of institutions, after numerous experiments, adopted forms of blanks to be sent out to each; these were to be filled by the responsible person addressed and returned to the Office. Here, it should be kept in mind, there is no authority, no requirement; only the rightness of the act, as acknowledged by all concerned and as deemed of value and interest by them. Moreover the fulness of the returns is wholly a matter of their comity. The result has been before you and before the country these several years. I know of no parallel voluntary contribution of statistical information anywhere. Of the imperfections none can know better than those who fill the blanks and those who collate them. The sending out of these questions it will be seen was in no way an effort to change systems and methods of work anywhere adopted as a necessity of local administration. It was simply an effort to state in the same nomenclature the facts on different points from data which had been theretofore gathered and published, but so published as to be valueless for purposes of generalization. The improvement in the numbers, fulness, and correctness of these replies furnishes some of the most gratifying experiences connected with the administration of the Office. Not a few administrators of institutions and systems have assured us that the effort to answer these inquiries has had the most healthful influence upon the care with which local records are made and reported.

The subdivisions of work and the methods of business in the Bureau must necessarily accord with the Department in which it is an office, and yet it must not be devised in such a way as to exercise any executive authority.

This description of what the Office has sought to do in the discharge of its duty to collect educational statistics and information, so far conveys an idea of what it wants to do in this respect.

PUBLICATIONS OF THE OFFICE.

We turn naturally to the second department of the duty of the Bureau, viz, the publication of information in respect to education.

I have referred to the annual report required by law. This, however large it may have seemed, has been crammed with the results of the process of collecting the information above described, and yet the demand from many quarters is always for more extended information upon many of the topics treated. Often this demand from localities, institutions, or systems requires special collections of facts and separate treatment and publication; hence comes the publication of what are

known as Circulars of Information. The annual report is constructed on the theory that, when occasion may require, special reports will be made based on each of the several tables included in the statistical appendix of the annual report. The Special Report on Public Libraries in the United States is an illustration of this class of publications.

The publications of the Office since 1870, it may be added, comprise 7 annual reports, 2 special reports, 32 Circulars of Information, and 4 other pamphlets. These publications amount to more than 10,500 octavo pages, they have been distributed in more than 250,000 mail and freight parcels all over this country, and to various persons, offices, and institutions in Canada, Mexico, South America, Europe, Asia, and Africa.

NEEDS OF THE BUREAU.

We are now prepared to state somewhat specifically the wants of the Bureau:

First. It wants additional clerical force. A sufficient number of suitably qualified clerks—clerks possessing the high attainments demanded—it has never had. As the work increases, the divisions into which it naturally falls should each be in charge of a competent chief, with such assistants as are necessary to do the work well and promptly. These divisions exist, but the several persons of ability and culture employed in each division are unequal to the tasks assigned them. Work is delayed, information in their hands of great importance to vast educational interests and often asked for by school officers simply cannot be given because there is no one to compile and write it out. The fact is discouraging to the clerk and liable to misunderstanding on the part of the correspondent. The work of one division is compelled to give way to that of another and there is danger of confusion. The Bureau, therefore, wants enough clerical force to do this work promptly and well.

Second. The Bureau wants fit and permanent quarters. The Office has the kindly and sympathetic oversight of the accomplished Secretary who is at the head of the Interior Department; and to him and his immediate assistants is it due that the Office is able to welcome you in the pleasant rooms now allotted to its use. Never before has the Bureau been able to store its library and its museum in immediate relation to each other. Indeed, we have moved five times in the last nine years, each time with great damage to the work and the property of the Office.

The Bureau therefore wants a permanent and fit abiding place, (1) where its clerical work can be performed; (2) where its publications can be received, stored, and distributed to advantage; (3) where it can store its library; (4) where its appliances illustrative of education can be collected and exhibited for the benefit of specialists in education and the public generally. What benefit would accrue generally from one such collection—a collection in which improvements in educational appliances may be received and examined, and where a national system of

exchanges may be carried on—to all grades of [illegible] and all classes of institutions, and what saving of money, of [illegible] of life would result in so vast a country as this!

Third. The Bureau wants provision by law for a librarian, and wants to catalogue its library. This library numbers 10,000 volumes and 20,000 pamphlets. The absurdity of making no provision for a librarian is obvious.

Fourth. The Bureau wants provision for arranging, preserving, and exchanging its educational appliances.

Fifth. The Bureau wants a sufficient number of its annual reports to supply a copy to each of its nine or ten thousand correspondents.

Sixth. The Bureau wants means to enable it to publish more Circulars of Information. It has now in hand summaries of the late able report of the French commission to the Centennial upon primary education in this country; also rich and valuable extracts from conferences in relation to education in connection with the Paris Exhibition; also valuable and extensive collections of material in regard to industrial education in foreign countries, all of which is in demand and it is believed would be very useful.

Seventh. The Bureau wants more means for the publication of special reports: one on the growth of college education, one on the development of text-books, one on the progress of instruction in drawing and in art education, and others of great interest are already well advanced, and would ere this have been completed, had there been means to complete them.

Eighth. The Bureau wants proper provision for receiving, storing, wrapping, and distributing its publications.

Ninth. The Bureau wants means to enable it to carry on the exchange of educational information with foreign countries. Something of how you have been able to use it in these international relations is seen in connection with the exhibition at Vienna, that at Philadelphia, and the recent one at Paris.

Tenth. The Bureau wants your discriminating judgment upon its works and its wants.

Eleventh. The Bureau wants a continuance of the hearty coöperation it has received from the educators of the country.

Twelfth. The Bureau wants for its work, as above specified, an annual appropriation of $51,740. The appropriation for the present year is $30,720.

Finally, in a word, the Bureau wants to do, and wants aid in doing, what no State, nor institution, nor individual has ever been able to do, but what the National Government only can do in this work of collecting and publishing educational information.

The PRESIDENT then announced the papers to be read at the evening session, and the Department adjourned to 7.30 P. M.

FOURTH SESSION—WEDNESDAY EVENING.

WASHINGTON, *February* 5, 1879.

The Department reassembled and was called to order by the President at 7.30 P. M.

INSTRUCTION IN GOVERNMENTAL IDEAS.

Mr. Justice STRONG, of the United States Supreme Court, read the following paper:

I think it one of the most interesting features of the present age that public attention is so much directed to popular education. Not only is the duty of training the young for useful manhood and womanhood more generally recognized than ever before in the history of the world, but there is a great increase in the number of thoughtful men who are considering the best modes of conducting educational operations in our public schools. We have passed the time when it was doubted whether schools for universal popular education may properly be sustained at the public expense. It is now acknowledged everywhere that the wise administration of government, as well as its safety and perpetuity, is largely dependent upon the intelligence of the masses of the governed. This is true in all nations that exist under a constitutional form of government. Above all is it true in the United States. Here the people themselves are the government. They dictate its forms and agencies; they select its officers; they make the laws; they designate directly or indirectly what men shall legislate for the country, what judges shall administer the laws in existence, and who shall execute them. Their impulses, their prejudices, or their judgment dictate what governmental policy shall be pursued. There is upon our statute books no law of universal application that has not been placed there and is not kept there in obedience to the popular will. All governmental and legal changes flow from the same source. It is the voice of the masses that declares what shall be the rights of labor, of property, and of persons. If the forms of government become unpalatable to them, others are substituted. If they disapprove its administration, they force a change. If the question be Shall free trade prevail or duties be levied for protecting American industry? they answer potentially. Shall the law of descent cast the estate of a decedent upon all his children alike? They determine. Shall additional protection be given to the rights of married women? It is for them to decide. Such is the moving power controlling all others in a government formed as ours is, and resting on almost universal suffrage.

It is needless to say, it is of unspeakable importance that a power so vast and so far reaching should be intelligently exercised. It may be admitted that the most ignorant and untrained of all our people would not wantonly imperil or destroy institutions so precious as ours. But even honest ignorance is dangerous. Beyond the facility with which

it may be employed by ambitious, selfish, and unpatriotic men lies the fact of its incapacity to bring to the consideration of the public questions that must constantly arise a sound and a wise judgment. It will, it must exert its power; but whether for good or evil is a thing of haphazard.

Instead, therefore, of doubting whether the general education of the young before they come to adult years is a matter outside of governmental concern, it is a wonder that it does not absorb more of the public interest and attention, more of the wise care of the government itself. No government can set before itself a higher duty than that of making provision for its perpetuity and its broader usefulness. And, in my judgment, these great ends can be secured in this country in no other way so efficiently as in fostering and guiding wisely the education of our youth in the public schools. Parents will not do the work; except in comparatively rare cases, they never did. In most cases they turn over the education of their sons and their daughters to the public school teacher, and consider themselves thus relieved from their responsibility. What the child learns of geography, of English grammar, of arithmetic, is generally learned at school, and, if not learned there, will never be learned. What the youth knows of the history or institutions of the country is an acquisition not made at home. I do not speak of this to justify parental neglect; I speak of it as a fact. In truth a vast majority of those parents who now have the government of the country and the preservation of its institutions in their hands are incapable of giving to their children the instruction which is needed to make them the most safe and useful citizens. It should never be forgotten that the children and youth of the country belong not to their parents alone; they are, in one sense, the heritage of the state, its property—as much so as are the public lands or the proceeds of taxation, for they are to be its supporters and the guides of its action. The government is to live not only for them, but by them. It is this consideration which justifies and demands the establishment and support of public schools by taxation and by appropriations of public money. It is this that justifies government supervision of the schools, as well as a watchful care that they accomplish the purposes of their being.

The paramount purpose of public school education, as I have said or intimated, is to fit the entire body of children and youth in the land for good and useful citizenship; to prepare them not merely to enjoy the blessings of an orderly, wise, and beneficent government, but to protect, perpetuate, and enlarge those blessings. And the attainment of this object, it seems to me, is to be reached by three successive steps. I speak not now of moral training, the importance of which cannot be overestimated; it should ever accompany intellectual culture, and it will always be found a helper. At present I refer only to what is commonly understood to be the proper curriculum of the schools. The first step is preparatory yet essential. It is to teach the use of instruments,

without which mental culture and the acquisition of needed knowledge, if not impossible, is difficult. I refer now to the primary stages, such as reading, spelling, writing, and arithmetic. Of this step I say nothing.

The second step is to teach the formation of habits of thought, of reflection, and the exercise of judgment; this, I have often thought, is too much overlooked; yet it is a most important step in training in the direction of those results which are to be sought through the agency of popular education at public expense. In the civil and social life of those who now fill our school-houses questions will constantly arise which they must meet and which they will help to solve. Those questions will demand cool reflection and calm judgment. They cannot safely be left to the decision of blind impulses or unreasoning prejudices. Wise, upright, and firm thinkers are what society needs and what the highest interests of the public demand for voters. But I do not propose to enlarge upon this theme.

The third step in public popular education, which is or ought to be secured by our public schools, is the acquisition of that knowledge which is essential, or at least useful, in the discharge of the civil and social duties that will soon fall upon those instructed in the schools. The knowledge which can there be acquired, I know, is not extensive, nor can it be. But it may be and it should be enough to make intelligent voters and useful citizens in every department of civil life. It may be enough to create intelligent homes and family circles where it shall be a subject of conversation, and where, even under a mother's influence, the boy shall be trained into a higher manhood.

The appropriateness and value of some knowledge beyond that of the mere elements of an education are generally conceded. No one doubts the wisdom of instructing a boy or a girl in the geography of his own country and in that of the world. To an American citizen knowledge of his own country and of the whole of it would seem to be indispensable. How can he legislate or influence legislation for a country of which he has no adequate or accurate conception? How even can he read the daily newspaper intelligently without some considerable knowledge of the regions of which it speaks?

So a knowledge of history, at least the history of the United States, is generally and properly regarded as a most desirable acquisition to be made in the public schools. It has often been said that no man is fit for a legislator who is not familiar with the history of his country, with its progress, with its development, with the embarrassments it has encountered, with the advances it has made, and with the causes of those embarrassments and advances. And if such knowledge is essential for a legislator, it would seem to be equally essential for those who make legislators and control their action. It is unhappily too true that members of Congress and of State legislatures, as well as local legislators and executive officers of municipal bodies, are but the mouth-pieces of those who send them, the reflex of the popular sentiment of the locali-

ties from which they come. The utterances of many a country newspaper have caused serious quaking at the Capitol, and they have controlled legislation. How important, then, that popular sentiment and popular judgment should be well advised.

I wish, however, to speak of another subject which I think should be taught in the schools. I refer to the Constitution of the United States and that of the particular State where the schools exist, and generally to the study of the fundamental ideas of government. It is remarkable that hitherto, in institutions maintained by the public for the avowed purpose of preparing the young to participate in the government of the country, those who are there instructed have not been taught what that Government is, what its objects are, and how they are proposed to be accomplished. I think the graduates of our schools, in most cases, when they go out into independent life know little or nothing of the system of government under which they are to live and of which they are to be constituents. Their graduation is like going to live in a house without knowing or learning what rooms it contains and for what uses they are designed. This is the more inexcusable because knowledge of organic law is so easily acquired. Our children have not to search, as in other lands, through the usages of centuries or through musty books of statutes to find out the form in which government here exists, the agencies by which it is carried on, the extent, division, and limitations of its power, and the fundamental rights secured by the frame-work of the government itself. We have written constitutions in each State, intended to be permanent, constitutions which define the purposes of government, distribute its powers, prescribe the mode in which they shall be exercised, assign to every man his place and duty, and declare what rights are inviolate, which government itself cannot take away. We have also a Federal Constitution establishing a General Government with limited powers, though extending over the whole Union, felt everywhere, but jarring in no degree with the governments of the States. The system is complex, but it can be made comprehensible by any mind. The constitutions are brief. Any one of them may be read within two hours. They are written in simple, untechnical language, designed to be easily understood by all. They bear a strong resemblance to each other. It certainly cannot be difficult to instruct our youth that all government which deserves the name is a combination of three powers sometimes united in one agent, but in this country, by constitutional ordinance, kept separate and independent of each other; that those powers are the law making, the law interpreting and enforcing, and the law executing; that to each of these are intrusted its own duties and assigned its own sphere, into which no other power can intrude. What those duties are and what is the arrangement which allots them I would have all schoolboys and schoolgirls know before they leave the public teacher. I would have explained to them what are the advantages derived from such a division

of power, and how under it the order and well being of the community are assured.

I would have every youth learn how each legislative branch is constructed, how its members are chosen, and what advantages flow from having two bodies, instead of one, necessary for the enactment of every new law.

I would have him acquire a clear understanding of what is and what is not legislative power, and what limits have been fixed to its exercise. Such knowledge would protect him against many a possible mistake. It is not uncommon for a community to become greatly agitated and ignorantly demand the passage of a law which the legislature has no constitutional power to enact, and which, if enacted, it would be the duty of the courts to declare invalid. Every such attempt is a trial to our institutions to which they should not be subjected, and which they would escape if the voters of the country understood the limitations of the Government under which they live.

I would have a youth in our schools taught the constitution, province, and power of our courts. Thus he would learn to respect the administration of the law, and with that reverence the law more. So I would have him understand the office and duties of the executive, and thus, in view of these several departments of power, be able to form some correct conception of the completeness and value of the government system.

I would have him also observe and study the limitations of power defined in the constitutions, and the declarations of indefeasible rights beyond the reach of government contained in them.

With such knowledge added to correct moral training he would be prepared for good citizenship, and for the intelligent and useful performance of his duties to the public, and for a wise participation in the government itself. It would make intelligible many things in the practical operations of government that to so many are now mysterious and apparently unreasonable. It would convince of its fitness to secure to all equal justice, domestic tranquillity, liberty, and general welfare. It would deepen and diffuse a more ardent love of country.

I am not alone in these opinions. Many eminent statesmen of the past have expressed the opinion that the Constitution of the United States ought to be a text book in all our schools; and we are told that in ancient Rome the boys were required to commit to memory the twelve tables of the law, the system out of which grew as a germ the immortal code of Justinian, including not only rules for the forms of government, modes of administration, and duties of public officers, but also that body of civil law that in modified condition is even at this day in force over most of the continent of Europe.

Had I time, I might speak of the value and interest of study devoted to the structure of government, considered merely as an intellectual exercise, but I am compelled to forbear.

ical and labor saving machines; but where it is not true we shall find that men have become tasteful or skilful in spite of their lack of opportunities, and not by means of the opportunities which their education should have given them.

The gradual decay and final extinction of apprenticeship to trades in this country have the credit of being responsible for much of the lack of skill among workmen, but it does not account for their want of taste. As a substitute for apprenticeship it has been proposed to establish trade schools, in which the projectors assert that by constant practice under an instructor for two years a youth will become a better workman than by an apprenticeship in the regular way for seven years. I can hardly believe that to be true, for there is something which comes from the experience of making objects in a workshop carried on in the regular way of trade that no hot-house culture in schools alone can give. Yet I should like to see the experiment tried, whether instruction, carried on for a few months only, can be made a substitute for apprenticeships which prepare people for the work of a lifetime.

It seems to me that the true remedy is to introduce the elements of industrial knowledge and skill into the public schools in such a manner that it will assist and not obstruct general education; and then, when the boy leaves the grammar school to begin his wage-earning life, we should provide technical schools of art and science, where, during his evenings, he can learn the theory and thereby improve in the practice of his daily work. This is the only way the mechanic or artisan can be reached, and it is the way he is now being reached in all the skilled countries of Europe. He has to support himself during the interval between 12 or 14 years old and 20 years old, and if we offer technical education to him in day schools only, in that period when he must be at work and cannot therefore avail himself of it, we offer it only to the children of the wealthy in the name of the mechanic. There are agencies enough already for the education of professional men, and their future employment will pay for any investment which their parents may make in their education.

What is now wanted is that the needs of the mass of the people should be considered, and that the most neglected of all, the mechanics, should have a fair chance given to them out of the public funds, of which they are the principal producers.

That a great reform in this direction is necessary seems to be the opinion of all educators whose experience and observation have been extended beyond the immediate surroundings of home. How to make this necessity evident to the public, and bring it about without injury to that which is good in present schemes, is the problem of our day. This is preëminently a period in which to take a broad survey of the educational field, especially from the economic aspect, and incidentally, also, from the standpoint of progress.

The times are hard; commercial and financial distress presses heavily

in every direction, and the necessity for economy holds in its relentless grasp every item of public expenditure, which it is subjecting to the most rigid scrutiny. All this is auspicious. Economy is the parent of honesty, and it is the best possible good fortune that the system of public education of this country is receiving a thorough economical purging.

It is not from any *lack* of education that complaints are being made, and the question therefore arises, whether the education is of the right sort, and whether the people who most need it obtain what they want. And true economy, which is always far seeing, cannot afford to be niggardly. The farmer does not regard the outlay on his seed corn as an extravagant expenditure so much as a necessary investment; for he remembers that "there is that scattereth and yet increaseth, and there is that withholdeth more than is meet, and yet it tendeth to poverty."

Let us see to what extent this educational scattering is carried on and what comes of it.

In the Eastern, Middle, and Western States there was expended last year the sum of about $70,000,000 for public education. What was this vast sum expended for, what were the results aimed at, and what did the public get for its money?

These are practical, common sense questions, and their consideration is pertinent in a meeting like this. Nor can we blink the issues they involve; for, in face of such an expenditure, the people who are toiling with their heads or their hands, and who in these distressed times are straining their utmost to make both ends meet, surely have a right, in face of such heavy taxation, to ask what it is all for, and to see if they are really getting their money's worth.

Every educator should welcome these inquiries. Certainly it behooves every one who is engaged in directing the features and in administering the provisions for maintaining public education carefully to study the subject in the light of present experience. From such a study he will be able to answer these inquiries intelligently, and also be able, during this period of depression, while the economical knife is being laid so closely to public expenditure, to direct public opinion so that no harm shall come to necessary and fundamental features of public education.

I am free to state that there has been a great deal of sentimentalism about this subject. Because it is, perhaps, the most important and indefinite single subject with which a community or a state has to deal, it not unfrequently happens that it gets straddled by theoretical hobby riders, who make of conventions such as this the Epsoms or Jerome Parks wherein pet theories are made to show their paces.

Being a specialist myself, I know that I run the risk of being considered one of these self same hobby riders; but I repel the insinuation, for my interest in the whole subject of national education is infinitely greater than my anxiety for any detail in it.

It is true that I am engaged, professionally, in promoting one particular branch of education. At the same time, I wish to make the

fact clear that in urging the importance of technical education and industrial drawing I place its consideration not alone on the grounds of its special or exceptional character, but rather on the basis of its great and economical value in general education and in practical life.

As the subject of education has been so much discussed of late, and as there is such a contrariety of opinion offered concerning what its features and aims should be, it may be wise to take a few soundings, in order to see where we are.

For the purpose, then, of getting at a few points of general agreement, let me ask, What is understood by education, and particularly by public education? I think the answer that would come to such a question, especially from the States to which I have referred, which have taxed themselves $70,000,000 for its support the last year, would be, that *education is the fitting of youth for the occupations of adult life and the duties of good citizenship;* and it seems to me that we should have in such an answer one that practically covers the whole question; and yet, simple as this answer is, self evident, indeed, as it appears, I observe in the discussion now going forward that it is extremely difficult for educators to defend the present system of education, particularly against the charge of its want of practical character, in any way that commends itself to the common mind by its explicitness and clearness.

I am aware that very many eloquent and scholarly essays have been written in behalf of the present system; but the discussion has been beclouded by the use of many phrases not understood by the public, such as "the developing of the mental and moral faculties of youth," "the broadening of their intellectual powers," and others of that sort; while the virtues of "disciplinary studies" and "culture studies" are also enlarged upon. By such treatment, the direct and simple object of education has become enveloped in an æsthetic mist of fine phrases to such an extent that it appears to plain and honest minded folks as decidedly too much set up in character and as hardly belonging to the toiling masses. Consequently, it is being vigorously attacked for its apparent want of practicality on the one hand and its undue expensiveness on the other.

As an educator and as an advocate of the broadest possible education for all classes, I am glad to see these attacks made. Every true educator should welcome them. We cannot have too much discussion, and one of the effects of this present widespread interest, I have no doubt, will be the explosion of many educational theories which are now so boldly advanced, the abandonment of the present narrow and over literary schemes, and the establishment, on a firm basis, of a system of education which shall meet the needs of the workingman and the mechanic, the producers of industrial wealth, and which shall prepare others to appreciate the skilled products of the country.

When the people see clearly and understand intelligently the close relationship of the practical education offered them to success in all

conditions of life, they will not suffer it to be hampered or curtailed for want of sufficient support.

It is, perhaps, the first duty of educators to make clear the practical features of the educational ideas they advance. Holding this opinion, I beg to submit to your consideration some general points in regard to the scope and character of public education which I regard as fundamental.

I assume it agreed that public education in this country must tend toward a preparation for the occupations of adult life and the performance of the duties of good citizenship. This being granted, our first step is to see what the general occupations of adult life are, for which education can be an elementary preparation, and, second, what are the duties of good citizenship which elementary education can promote.

In the first place, then, let us take a broad view of what the general occupations of adult life are:

First. We have those who are engaged in producing food and raw materials of industrial arts, animal, vegetable, and mineral. These are the producers of natural wealth.

Secondly. We have those who are engaged in using the raw materials produced by the first class, as a basis on which to expend their skill and taste in the manufacture of objects for the comfort and pleasure of mankind. These are the producers of industrial wealth.

Thirdly. We have those who are engaged in trade, finance, and transportation. These are the distributors of the wealth produced by the first two classes, but are not themselves the producers of wealth.

Fourthly. We have those engaged in military, naval, and political service. These are persons employed for the protection of social and political order.

Fifthly. We have those engaged in the professional occupations, such as lawyers, clergymen, physicians, and teachers. These are employed in ministering to the legal, religious, physical, and educational wants of all classes.

Sixthly. We have those engaged in personal or domestic service.

You will observe that it is the persons engaged in the first two classes of occupation that are the real producers of wealth, while the others are maintained by occupations growing out of its distribution or by professional or political occupations growing out of the necessity for protection to the whole social and political organism.

In the educational discussions of the day we do not see sufficiently realized the changes in the relative numbers of persons in these six classes that have been made in recent years; nor are educators sufficiently alive to the necessary changes in the scope of public education thereby entailed.

What, then, are these changes? If we examine this classification closely, we shall find that these changes have their origin in and are

principally based upon the transformation that has taken place, within the last few years, in the second group of occupations, those of the industrial classes. These changes have been enormous; I might say sufficiently so as to completely revolutionize the old relation of these classes to one another. A slight examination of the material and political condition of any one of the leading States to-day shows that its material and political power is centring about its industrial classes, and that, as these flourish or decline, so all the other interests of the State flourish or decline. Indeed, it is a well established economic truth that industrial wealth, in other words a healthy condition of the industrial occupations, is absolutely necessary to the success of all other occupations.

So clearly is this fact recognized by the five great European nations, England, France, Germany, Austria, and Italy, that to-day they are in earnest competition with one another to develop to the utmost the industrial productiveness of their people.

Let me for a moment digress to make a statement in regard to what industial development consists of. In a manufactured product we have two elements, the raw material and the skilled labor which has been put upon it. Take, for instance, this piece of steel. Its value is, perhaps, three cents. As yet skilled labor has hardly touched it. Fabricated into this form, we have a surgical instrument which is worth ten dollars. Now, what makes the difference in price between these two pieces of steel? The simple fact that skilled labor has been applied to this one and not to the other; and it is the skilled labor, therefore, which gives it its chief value. Take this piece of cotton cloth for another illustration. You have here eight cents' worth of raw material in cotton. This material has been fabricated by many processes, until there has been produced this piece of cloth, worth one dollar and a half.

Thus, again, we see that the principal element in the value of an article may be the skill and taste which have been expended upon an insignificant bit of raw material.

Then, it may be said that the ratio of increase in value made by skilled labor upon the raw material will be determined by the amount of skill and quality of the taste displayed.

This is precisely where a consideration of the industrial element in education becomes important. When we see what creates value in labor, and how little we have hitherto done by education to foster this element, it is time to overhaul the whole subject, using both spade and pruning hook in the operation.

To understand the full bearing and significance of this matter of technical education in art and science, we must consider its influence on human labor and industry; for be it remembered that this whole question is an economical one, not one of sentiment; it has as much to do with practical life and profitable labor as the employment of the locomotive in lieu of horses or the use of gas instead of farthing rushlights.

Let us for a moment, then, look at what constitutes the element of value in human labor.

Labor is the application of two powers: first, skill; second, force. The product is valuable in the proportion as it displays skill and without value in the ratio of its absence of skill. This is as true about the making of a watch, or a nail, or a pair of boots as about the performance of a difficult surgical operation. The skilled workman is the one who produces something of greater value out of the same material than the unskilled workman can, and with less waste of time and material. He is, therefore, a more profitable agent to employ than the unskilled, and his work being more valuable he receives a higher compensation for it, while his employer, finding a ready market, at high prices, for industrial masterpieces, makes more profit on the sale of them than on unskilled productions. The purchaser is better satisfied with the article and willing to pay a higher price for it than for one displaying no skill. So that the application of skill and taste in the production of an object gives (1) to the workman higher wages, (2) to the employer larger profits, and (3) to the purchaser more satisfaction than if the skill and taste had been absent. This is the prosaic and practical aspect of the question, its economical character.

There is another view I shall refer to, though not to enlarge upon. That may, if you please, be called the sentimental aspect, in contradistinction to the practical one. It is this: That the workman whose taste and skill are employed is a happier man than if only his muscles are used in his work. His soul and spirit are engaged; the immortal part of him is influencing his labor, breathing into the work of his hands the very breath of the life that shall never die. Such a man was Raffaelle when painting the Sistine Madonna, transferring the image of his own beautiful soul to the canvas; an act of homage and praise to his Maker for life and happiness and a gift to all posterity of a "joy forever."

To the practical people who do not believe in sentiment, I would also like to remark that the Sistine Madonna is *worth a good deal of money.*

What is true about the productions of one workman applies to all who are engaged in the industrial arts, and it is, therefore, equally true about a whole nation. The blacksmith and the maker of watch springs may work in the same material, steel; yet one may produce an object of small value out of a pound of the material, while the other produces many of great value out of a pennyweight of it. So it is with almost all the raw material of the arts, both fine and industrial. A piece of clay which is of less value than any coin in circulation becomes under the touch of Michael Angelo of greater pecuniary value than any coin that was ever circulated; a lump of common earth, that might have been made into a firebrick worth a penny, has been transformed by the great sculptor into a relic that its weight in gold could not purchase.

Though the difference in relative values between skilled and unskilled

work is not so great in industrial art as it is in fine art, yet there is a difference, and it is invariably recognized and paid for.

It is hardly worth while to continue this argument, because no one can challenge it, and one illustration that is typical of thousands is enough. We *must* recognize its truth, and the value of its significance to us is determined by the proportion in numbers of our people employed in the manufacturing industries, and the amount of capital invested in them.

If we were a purely agricultural people, the loss we suffer from want of industrial skill would not be so great as to be formidable, nor would the danger to our commercial prosperity be so imminent as it is. But we are a manufacturing people, with very heavy interests involved in this question, and these interests can only be preserved and developed by investing them with taste and skill. In other respects our people are highly educated and have refined taste, and will not be satisfied with clumsy and tasteless objects, whether of native or foreign manufacture.

We have common sense and refinement enough to want things to look well and wear well, and unless native manufactures can be so made we do not buy them; hence the enormous importations of foreign goods which do satisfy our love of honesty and beauty by their skill and taste. You have only to go into the stores of any large city and inquire where the finest goods come from to find out why a good many native workmen are out of employment.

If the present condition of labor is thriftless and unprofitable, what should be done to insure its improvement? We know what other nations have done when suffering from the same cause. The first thing England did was to establish schools of art in the centres of manufactures; but that did little good, for their influence was too limited to improve public taste. The next experiment was to teach drawing in the public schools and train highly skilled teachers of art, and therein was found the true remedy. The public was taught at the right age for learning, in childhood, and the pupils of the public schools, whose taste had been encouraged by regular exercises in drawing, crowded the schools of art in the evenings as soon as their apprenticeships to trades began and practical life commenced. In 1851 there were nineteen schools of art in the United Kingdom; this year there are nearly one thousand schools of art and art classes, and of a much higher standard of success than in 1851, and industrial drawing is now taught in the national schools.

What has been done for art by the government and the people is insignificant compared with what has been accomplished in scientific instruction during the last twenty years. The regular teachers of the day schools have qualified themselves to give instruction in art and science, and the national school buildings are used for classes. In consequence there are many thousands of science classes spread like a network all

over the country, discovering, developing, and economizing all the native talent of the people.

The French are devoting more and more attention to technical education in the public schools, and last year, while I was in Paris, the legislature passed an ordinance appointing seventeen inspectors of drawing for the public schools of the republic. This was entirely a new measure; but it shows how keenly alive the French are concerning the sources of their national prosperity, and how little they feel that they can afford to rest on their laurels.

To return from this rather long digression.

I could bring before you hundreds of articles exhibiting but trifling values of raw materials, such as iron, wood, clay, glass, and textile fabrics, in contrast with great values from skilled labor put upon them; but I think we shall all agree that the value of manufactured goods depends principally upon the quality and amount of the labor they contain.

Now, if we consider for a moment that the number of raw materials and metals for all the industrial occupations is comparatively few and that the cheapness of transportation makes their distribution among nations common, it is evident that the nation which has the most skill and best taste to put upon these raw materials—that is, the one that can fabricate them into the greatest variety of objects, and make them minister to taste as well as to convenience and comfort—holds a decided advantage in all the markets of the world.

I do not wish to weary you with statistics on this point. Let me say, however, that last year England exported manufactured goods of the value of about $750,000,000. If we take a safe estimate and say that one half of this amount represented the product of skilled labor, you see at once what an enormous exporter she is of the labor of her people. If you examine the trade of France, you find that she greatly exceeds England as a seller of skilled labor. No one could examine the recent International Exposition at Paris without being struck with amazement at the great wealth these two nations are producing and accumulating by virtue of the skill and taste they are promoting among their peoples.

I think it will be evident without argument that the great development which has taken place in these industrial occupations must affect all the classes who are non-productive, and, therefore, all society.

Seeing, therefore, that it is the development principally in the industrial occupations which constitutes the principal changes now going on in human employments, let me turn from this general view of the subject and ask your attention to a particular exhibit which practically and very completely illustrates the relation of these various classes of labor to each other and their relative importance when considered in the light of education.

I invite your attention to the material and political condition of the people in the State of Massachusetts.

In this State a very thorough attempt has been made to get accurate statistics bearing upon the social and material condition of the people, and the work has been so well done by the chief of the bureau of statistics, Col. Carroll D. Wright, that it is believed to stand unequalled by any similar statistical inquiry.

As these results are important and I shall have occasion to refer to them, I have had them placed conspicuously on this chart, that you may the more readily grasp their import.

Observe that in the State of Massachusetts we have a population of about 1,600,000.

Our first inquiry was, How do these people get their living? What are their occupations?

In this population we have—

Employed in government and professions	29,730
Employed in trade and transportation	104,935
Employed in domestic and personal service	424,289
Employed in manufacturing and mechanical industries	316,459
Employed in agriculture	70,945
Employed in fisheries	6,656
Employed as laborers (unskilled and unclassified)	52,179
Engaged in no occupation (about)	300,000

Add to these numbers about 300,000 for the youth of the State, and we have a general picture of how this community is employed and the number of children in the course of preparation for the various occupations of the State.

Let us examine this exhibit closely, to see which occupations form the real basis of the State's prosperity.

Shall we find this basis in the first division, in the professional employments? Certainly not. These are not employments which add directly to the productivity of the State. Indeed, these occupations could not exist were it not for other employments beneath them.

Shall we find this basis in the second, among those engaged in trade and transportation? Here again we have secondary employments, mere distributers of wealth, not producers of it. These occupations all presuppose the existence of others around them.

Shall we find this basis in agriculture? Note the small number engaged in this occupation, and as we all know that Massachusetts is not an agricultural State, what she raises in the way of agricultural products must be of an exceptional character, or must owe its existence to exceptional markets created near by. Agriculture, therefore, is wholly dependent upon the existence of other contiguous occupations.

Shall we find this basis of prosperity in this other class of occupations, her servants, embracing over 424,000 of her population? Certainly not; for these persons are in no sense producers. They are those

who, unfitted for other occupations, drop to the lowest level of personal service.

Where, then, do we find the basis of the prosperity of Massachusetts? Here, with these 316,000 workers in her industrial workshops. They form the principal producers of the wealth of the State.

We have just seen that in industrial manufactures there are two elements, raw material and skilled labor. As Massachusetts produces no raw material—save her east wind, which has never yet been utilized in industrial fabrications—it is evident that even her right to an industrial existence rests simply and solely upon her possessing the other element, skilled labor.

This exhibit of occupations, therefore, shows us conclusively that Massachusetts is an industrial State solely by virtue of having 316,000 persons possessing certain degrees of skill and taste.

If we were to turn to the capital employed, we should find the productive capital principally invested in two ways, in manufacture and in agriculture. An examination would show us that the capital invested in the latter is largely dependent upon the existence of the former for its returns.

The figures concerning invested capital are as follows:

	Capital employed.	Annual product.
Capital in industry	$283,000,000	$593,000,000
Capital in agriculture	210,000,000	41,000,000

To sum up the whole situation in a word, Massachusetts exists today as a State by virtue of her manufacturing or industrial interests. As these interests prosper, other interests in the State prosper; as these decline, all other interests in the State decline; so that you have a community based, so far as its material condition and prosperity are concerned, upon its industrial employments, and able to contribute to these employments but the one single element of skilled labor.

As we are considering this matter in its relation to practical life, and as the statistics clearly show that Massachusetts holds her position among her sister States by virtue of the labor of 316,000 of her mechanics and artisans, it will be easy to see the important bearing of the public education of the State on their occupations.

Be it remembered that it is the work of the hands and brains of these men that holds the other interests of the State together. It is the skill and taste they can infuse into their work, the change they can create in the raw material that capital can bring them, that constitutes the real profit to the capital of the State.

Recognizing this through the urgent representation to the legislature of some of her most intelligent manufacturers, the State passed a law in the year 1870 that drawing, allowed by all to be the common basis of all industrial education, should be taught to all children in the public schools; also, that all cities and towns having more than ten thousand inhabitants should provide classes for free instruction in industrial draw-

ing, either in day or evening schools, under the direction of the school committees.

Here is the act:

[Chapter 248, acts of 1870.]

SECTION 1. The first section of chapter 38 of the general statutes is hereby amended so as to include drawing among the branches of learning which are by said section required to be taught in the public schools.

SEC. 2. Any city or town may, and every city and town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee.

SEC. 3. This act shall take effect on its passage.

This act took effect on May 16, 1870. It empowered any town, whatever might be the extent of its population, to establish such evening classes for industrial drawing, and required twenty-three to do so.

Though many difficulties were encountered in carrying out the law, there was an evident desire to obey it, and the difficulty of finding teachers was met by the State in the establishment, in 1873, of a normal art school for the education of teachers of industrial art. In all this action there seems to me to have been the greatest economical sagacity. It imposed on the community the task of having drawing taught, and when the cry came that there were no teachers of the subject, it provided the teachers. And the State of Massachusetts, though it may not be doing in all of its parts what the larger cities in it are doing, will be led in the future, as in the past, by the action of its great centres of population.

The school committee of the city of Boston may be said to have taken a national lead in this matter, one that has been watched and commented on by European nations with much interest. Thus, the French commission on the educational system of the United States as shown at the Philadelphia Exhibition of 1876, reports as follows:

Scarcely six years ago Massachusetts introduced regular instruction in drawing, and the Northern and Western States are rapidly following her lead. If the last Paris Exposition revealed great advances in English industry due to the art movement developed since 1851 by the South Kensington School, what may we not expect from American activity, stimulated by the Philadelphia Exhibition? Everywhere, already, educators are pointing out defects, stimulating emulation, and they find an echo in the teachers of schools, as well as in the employers of labor. France must defend that prëeminence in art which has heretofore been unquestioned. She has enormous resources which ought to be developed by well planned primary instruction. With us, as elsewhere, it is not enough to have excellent special teachers of drawing; it is not enough to have good courses and good special schools; but *all teachers, male and female, must be able to give the first instruction in drawing in daily classes to all their scholars.*[1] France, which has gone to work energetically after her misfortunes, ought to devote herself to the study of drawing, with no less ardor, and reinvigorate her productive powers at the very sources of art.

I might here say that, in the words italicized, France is advised to do what Massachusetts has been doing for some years, and this testimony from such a source ought to satisfy the theoretical educators who fancy

[1] The italics in this passage are mine.—Walter Smith.

that drawing is a merely "ornamental" study. To "*reinvigorate the productive powers of a nation at the very sources of art*," by the teaching of drawing, is not a merely ornamental process, but a highly economical one. The report goes on to say:

The South Kensington system, so successfully and skilfully imported into America by Walter Smith, is likely to render as great service to that country as it has already rendered to England herself.

The report objects to our use of the lead pencil in drawing, and recommends practice with the soft crayon point. But, as a matter of fact, we use both hard and soft points to draw with, and so are more catholic in this matter than either the French or the English.

But its conclusion is very significant. It says, if certain suggestions concerning the processes of drawing were adopted, then "Massachusetts would leap at a single bound to a superiority in art instruction in primary education to which the old nations of the European world have hitherto been unable to attain. But, just as they are, the examples of the primary and grammar school work shown at Philadelphia are very satisfactory. When one considers that it represents the fruit of only two years of trial, *it must be admitted that such remarkable results have never before been secured in so short a time*."[1]

The works upon which this criticism was made were produced in the public schools of Boston and Massachusetts.

It is refreshing, also, to see that the Boston school committee has not lost its interest in this great question. In its last report, just issued, occurs the following trenchant and incisive statement:

The question of teaching trades in our schools is one of vital importance. If New England would maintain her place as the great industrial centre of the country, she must become to the United States what France is to the rest of Europe: *the first in taste, the first in design, the first in skilled workmanship.* She must accustom her children from early youth to the use of tools, and give them a thorough training in the mechanic arts.

That, in my humble opinion, is the most important utterance yet made in this country on the subject of technical education. And if every school committee in the United States would adopt the sentiment and act upon its conclusions, the one great obstacle to the industrial development of the country would soon be removed.

Thus far we have been considering education in Massachusetts as bearing upon the occupations of adult life in a most important section of the community.

We admitted in the preliminary argument that public education should also tend to good citizenship, and it will be well to inquire what would be practical education for good citizenship in Massachusetts. Good citizenship includes an intelligent use of the franchise and a ready compliance with the laws promoting social and political order.

Looking again at this classification of occupations in this Massachusetts community of 1,600,000 persons, it will be found that in this body

[1] The italics in this passage are mine.—Walter Smith.

of 316,000 workmen lies the chief danger to social and political order, if danger shall arise.

It is not among those who are employed in trade, agriculture, or the professions, or among the servants of the households, that the State needs to apprehend danger. They are all the servants of the mechanic, by whatever name known, and fear no competition, for they never encounter any, so long as their providers, the mechanics, are in full work and can employ them. But discontent and hatred of capital are apt to lurk among those who have to do skilled work without possessing much skill, and have to compete with the highly trained artisans of Europe without ever having had the opportunity of being qualified for the competition.

A man who cannot earn or command of capital more than a dollar a day, has a much stronger hatred of capital than one who can earn three dollars; and one has but to study the labor question conscientiously to see that the more you increase a man's wage-earning power, by virtue of superior skill and taste, the more you increase his respect for social and political order, and the larger is his stake in the continuance thereof.

So we see that the material, social, and political interests of Massachusetts are centered about her industrial population, and practical education in the State, whether regarded from its bearing upon adult occupation or upon good citizenship, should consist in giving the 300,000 youth of the State an education which should have a strong wage-earning power in industrial occupations. Her commercial, professional, and agricultural occupations have long been provided for in this respect; but until quite recently no particular efforts have been made for the education of her mechanics and artisans in the elements of knowledge which bear directly upon their wage-earning power in adult life.

There are doubtless many among her public men who believe that all industrial education is special in its character and should be given in special schools only, after general education has been completed and the workman has commenced practical life. This is a view which has been held and abandoned by the most skilled nations in Europe, which have learned to see by actual experiment the value of teaching the elements of art and science to all their people, from the first day of school life to the last, in the public schools.

There are others among her public men who are awakening to the fact that the future prosperity of the State depends in no small degree upon the skill and the taste which the next generation of artisans can be made to possess.

This is not an occasion, and the time is insufficient, to dwell upon all the educational, material, and political considerations that are presented in this exhibit. I will only add that no one can study the results displayed in Colonel Wright's admirable report without seeing most conclusively that it is the kind of education given in the public schools of

the State for the next few years that will determine largely her future material, political, and social condition.

I have dwelt upon this practical exhibit in Massachusetts because it seems to me a very instructive one for an educator to study. It gives some excellent material with which to cope with theoretical, sentimental educators on the one hand and narrow minded or ignorant taxpayers on the other.

To the educational essayist, who can see in education only a process of intellectual training, and who loves to dwell on the humanities and all the various aspects of æsthetic culture, and who decries all education that has not for its object the broadening of the intellectual powers of pupils or disciplining their minds, whatever these terms may mean, these statistics speak a practical admonition indeed. They show that an education directed solely for such purposes would be immediately practical to but comparatively few people in the State, while it would be incomplete as a fundamental wage-earning education for the real productive workmen who form so large a part of the adult population.

To the taxpayer, groaning under the expense of the present educational arrangements and blindly advocating a return to the three R's, this exhibit is equally instructive, for it shows him that education to be practical, that is, wage-earning, must be largely industrial; in other words, it must contain certain features for which that which we may call a three-R's power education does not provide at all.

What is true of Massachusetts is true to a greater or less extent of the Eastern, Middle, and of many Western States, and will become more true of every State day by day and year by year. Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania are following in precisely the same line of development as Massachusetts, and already their industrial interests are increasing beyond all others; while in Ohio so careful and observant a statesman as General Garfield has pointed out that the State has passed the period of her agricultural development, and her increase in wealth and population is now to be found in her industrial counties.

In this connection I cannot refrain from calling attention to the earnest words of Governor McClellan, of New Jersey, in his recent message, in which he emphasizes the importance of making the public education of the State more industrial in character, to meet the developing wants of the people. Among other things, he says:

It is now universally recognized that industrial drawing, *i. e.*, drawing as applied to the arts and trades, not landscape drawing, is the basis which underlies the vast majority of the pursuits of our people, and that it can be profitably made a part of the course in our public schools. * * * We need technical schools in various parts of the State. For instance, in South Jersey one is required in the interests of the glass-makers of that region; in Paterson they are needed in the interests of the silk and cotton factories and the great machine shops of the city. In Trenton a school is needed immediately for the benefit of the potteries, where boys and girls may be taught modelling, designing, and decorating, as well as the making of pottery itself;

for the potteries of Trenton have now reached a point where they daily suffer from the lack of a sufficient number of skilled employés, and if properly encouraged they will soon develop into one of the largest and most important interests of the country.

I might here suggest to Governor McClellan that, if Trenton cannot find a Flaxman to transform her clay into gold, she can at any rate do what Lambeth has done, establish a school of art under trained masters, and thus educate the workers employed in her potteries; and the State of New Jersey can make this an equal success by requiring drawing to be taught in her public schools to every child, as Massachusetts has done; thus offering an outlet for the talent of every child, creating a market for her manufactures, and making of Trenton the Lambeth and Etruria of the United States.

By availing themselves of the pioneer action of Massachusetts in creating teachers of industrial art, just as Massachusetts availed herself of the same action taken by England, every State in this Union may, any day it chooses, add the elements of industrial education to the instruction given in her public schools.

The United States has not far to seek for a market for her skilled industries when she possesses them. She is her own market, and one that England and France find very profitable. She has only, therefore, to reach forth her *hand* and take it; but it must be done by her hand, and not by her head alone.

It was said of old that—

> Nuremberg's hand
> Goes through every land.

The time may come, though it can come only in the way I have suggested, when the skilled hand of America may go through every land; and that will be a vast improvement upon keeping our unskilled hands in our own pockets, going through our own purses to pay for our want of skill.

I am well aware that, in claiming that public education should be based more than hitherto upon an industrial wage-earning power for the masses, I lay myself open to the criticism of those who hold to certain disciplinary and culture views as main considerations in education. They must, however, admit that at present people are dissatisfied with the education given in the public schools. This is a fact which cannot be ignored; and, if we probe the discontent to the bottom, we shall find it resting on the conviction that the education of to-day does not sufficiently provide for the adult life of all classes; and in pleading for more attention to industrial skill and taste I have only indicated a practical remedy which has been found successful elsewhere. If the advocates of *culture above skill* have any more likely remedy to propose, the public will be glad to hear it. I yield to no one in advocacy of the broadest possible æsthetic training in public schools, but I hold it to be our first duty to try to fit our youth to maintain themselves when they arrive

at adult age, if need be, by the work of their hands, so as to be prepared for the competition which is pressing harder every day, and thus protect themselves from being superseded by machinery, which is gradually monopolizing all the labor that requires no skill. In face of such developments, the mere ability to read, write, and cipher, and the possession of a thin film of culture education, are no protection to mechanics and are not wage-earning to them in the sense in which these acquirements may be to others. I do not wish to be misunderstood on this point. I believe in the fullest development possible for public education; but I hold that we cannot as sensible men claim the right to-day to put the needs of the mercantile and professional classes before and to the exclusion of the industrial classes.

The interest in industrial education now rising will not die out. It will soon make itself felt in no light manner, and this annual disbursement of $70,000,000 in the Northern States will not be begrudged when the industrial classes see that their needs are recognized as well as those of the mercantile and professional classes.

All that the creators of industrial wealth need and have a right to ask for is as good a preparation for their practical life in the public schools at present existing or to be established as all other classes are getting. To them, culture means a knowledge of living arts, while to others it may mean a knowledge of dead languages; and there is certainly as good a reason for the existence of the first sort of culture as for the second.

As we turn from the contemplation of particular States and survey the conditions surrounding and permeating this broad American life with all its possibilities, we have to note that much of our future weal or woe centres about the profitable employment of the industrial classes. Already they hold no small share of political power, and it is in the nature of things that their numbers should greatly increase. At present they are suffering from broad competition on the one hand and labor saving machinery on the other, and between this upper and nether millstone they are apt in their discontent to look upon capital and upon government as their oppressors.

These are facts which educators, economists, and statesmen cannot afford to ignore. The country is getting older; it is rapidly developing the wants and the tastes of older civilizations; and now, having provided for the education of the laborer, the shopkeeper, the merchant, and the professional man, it is time for us to recognize that the day of the mechanic has come at last, and come to stop.

Having dwelt more fully than perhaps I ought to have done on the general aspect of this question, I wish, in the few moments left to me, to make some suggestions on the second part of my subject: industrial drawing.

The term *industrial drawing* is used to distinguish it from all fanciful or ornamental education coming under the name of drawing.

It has been introduced into the schools of Massachusetts because, as the chairman of the drawing committee in Boston, Mr. Charles C. Perkins, says:

At least three-quarters of the children in our public schools are destined to get their living in industries which demand a knowledge of drawing. It has a bearing upon the manufacturing interests of the community, and these can only be vivified by the cultivation of public taste. As a matter of material gain, this question of uniting art and industry is now looked upon all the world over as paramount.

A French commission appointed to examine matters pertaining to industrial success reported, in the year 1863, as follows:

Among all the branches of instruction which, in different degrees, from the highest to the lowest grade, can contribute to the technical education of either sex, *drawing, in all its forms and applications, has been unanimously regarded as the one it is most important to make common.*

I have already quoted the opinion of the French commission of 1876, that "France ought to devote herself to the study of drawing and reinvigorate her productive powers at the very sources of art."

Drawing is now generally regarded as essentially educational, taught, as it is at present, as a workthing, not as a plaything. Let it be stated that without a knowledge of drawing skilled labor in industry is impossible, and, if we remember that what this country stands most in need of to-day is skilled labor, I think that argument on behalf of drawing is unnecessary.

To make it both proficient and popular, it must be taught by the regular teachers in the public schools, in every grade of them, to all pupils. This involves the previous instruction of those teachers, and by this action the cost of introducing the subject into the scheme of instruction is reduced to a minimum. We know this to be practicable, because it has already been done in Boston and in a large number of the most important cities in the United States.

That the public is interested in the matter is also unquestioned. At the last public exhibition of the drawings made in all the public schools of Boston, by actual count at the doors, more than thirty thousand persons attended the exhibition in three days.

The regular teachers of the public schools there are now teaching drawing more systematically than it is being taught in all grades of schools in any European country, and are, moreover, producing more originality and executive power in their pupils; and I have good reason for believing that wherever the subject has been equally systematically taught the results have been equally good.

There are, of course, more ways than that of cultivating public taste and thereby elevating the industries of the country. But as this subject of drawing lies at the foundation of all technical education, and as it can be easily and efficiently taught at a very nominal expense, this seems the place to begin the introduction of a practical element into public education. Judging from the experience of other countries, as

well as the result of what has already been done in this, it seems to me that the following plan is the most economical and successful method by which technical education may be promoted in this country:

1. That industrial drawing should be taught in the public day schools as an elementary part of all general education, and that industrial drawing and modelling be taught in free evening classes to persons of both sexes who are not in attendance at day schools. To become general, this should be accomplished by an act of the legislature of each State.

2. That a State normal art school for the training of teachers and designers be established in each capital city or other convenient centre, in connection with an industrial museum and art gallery.

3. That the teachers of drawing in normal schools, evening drawing classes, or schools of art, or persons acting as supervisors of drawing in public schools, be required to possess the certificate of qualification to act as teachers awarded, upon examination, by the State normal art schools.

4. That the National Government establish or assist in the establishment of a great technical school of industrial art at Washington.

Concerning these proposals, I have only time to summarize briefly. They are not mere theories to meet an imaginary evil; similar agencies have all been successfully carried out in other countries, and have met with success in correcting great national deficiencies.

It may be objected that there are not in the country sufficient works of art to fill museums and galleries; but to this I would reply that, for a very little money, reproductions of the finest works in the British Museum, the South Kensington Museum, the Louvre, and other great national collections can be obtained, and are as good for the purposes of instruction as the originals.

Besides this, public museums and galleries are like a vacuum—they fill themselves. The empty rooms of a museum and the bare walls of a picture gallery have an attractiveness and cohesiveness about them for works of art in the possession of private persons, that are simply irresistible. The law of gravitation applied to choice works of art takes them in a straight line into public galleries, when such galleries exist. The owners of such works try, in the first place, to soothe their sense of possession by *loaning* their treasures to the public; then they make a clean breast of it, and change the loan into a donation or bequest. That is how the South Kensington Museum and the Louvre have been made the glories of the earth: by a little knowledge of human nature on the part of their projectors.

The proposal to establish normal art schools is not so formidable as it may at first sight appear. They may form a part of one central art school, which every State ought to have, but it should be recognized that we cannot get the most efficient teachers without normal training, whatever may be the manual skill of the art students who offer them-

selves as teachers. The French people found this out in 1865. When the minister for public instruction required that all applicants for teacherships of drawing in the city of Paris should be examined before appointment, 193 applicants offered themselves, and out of these only 27 passed in the artistic and 13 in the geometrical subjects. In the next year, out of 182 candidates who were examined, only 30 were passed. Had it not been for this test, all of these unfit persons might have been appointed. That was sufficient evidence of the need for a normal school, and one was established by the government the same year at Cluny.

It has been well said that teachers are not a natural product, nor has private enterprise yet undertaken to produce them; so that, if they are to be made, the State must provide them, here as elsewhere.

To establish good normal instruction is also by far the most economical way of diffusing sound education, because by it the whole people are reached in time and in the way that the best experience suggests. Through the normal school may be regulated to a nicety the public education of a State.

Concerning the proposal to establish a central school of industrial art at Washington, one department of which might be for instruction in fine art exclusively, this appears to me to be essential as an example for the whole country and in order that the treasure houses of material now existing here for such a purpose may be utilized and made fruitful. It may be necessary for the protection of this nation that the sword be kept bright at West Point, but it would conduce as much to its greatness and its glory if the ploughshare were made radiant at Washington.

I cannot close without emphasizing, with the strongest language I can command, that, as educators and political economists, we must look out for the interests of the industrial classes more than has hitherto been done.

In the conflict that is imminent between aggregated capital on the one hand and ignorant, unskilled labor on the other, lurks the greatest danger to our whole social and political organism.

It is the province of public education to mitigate, if not entirely remove, these dangers. In view, therefore, of these vast annual expenditures for public instruction, I warn you against ignoring the interests of the industrial classes in education. To the public schools all classes should be taught to look as the very bulwark of their salvation; while to the state these schools should be what embankments are to the Dutch, or what its fleet is to the English people.

A miserable three-R's education is neither the one nor the other in this half of the nineteenth century. In this great industrial battle let us give honor to whom honor is due. The present mayor of Boston recently told the boys confined in the reform school of the city that, if he could bring it about, every one of them should be taught some trade while in the school, by which to earn an honest living when he left it. As part

of this education, every boy learns industrial drawing, and the same is true of the State Reform School boys at Westboro'. This is done for economical reasons, not for show.

All honor be to the pioneer city and State that have done so much. This, and all the work done for the same reason by people who are more farseeing than mere noisy politicians, has been done under fire.

Only a few days since, a leading journal in Boston, referring to the geometrical drawing taught in the schools, ignorant of the fact that geometry is the common basis of both fine and industrial art, asked in astonishment, What is the use of this trash? Yet the most distinguished American art critic has deliberately written that over the door of every workshop in the land should be printed the old Greek inscription "*None but the skilled in geometry can enter here.*"

In conclusion, I feel that I have trespassed too much and too long on your indulgence and forbearance, and that my subject has been too much for me, whatever it may have been for you.

If, however, the devotion of a lifetime to this subject has given me the right to speak, if my transatlantic origin and education have enabled me "to see oursel as ithers see us," then it has not been altogether an unqualified audacity that has brought me here to night.

This, therefore, must be my apology, that though many of my stiff necked fellow countrymen come to this country to idle away their time and then go home to find fault with its institutions, I have come here to work, and to stay, and to do my share in improving them. And here, in my own home and in the home of my children, I have only asserted the Anglo-Saxon right of free speech, which as an American citizen I feel that I shall never forfeit, because it is the common inheritance of the English speaking race.

The PRESIDENT. The hour of adjournment having arrived, I am pleased to announce that the regular session will take place to-morrow morning at 9.30, when the meeting will open with remarks from Dr. John D. Philbrick, of Boston, on "Education at the Paris Exposition." I also have the honor to announce that to-morrow at half past twelve o'clock it will be the pleasure of the Department to return the visit of the President of the United States which he has so kindly paid us to-night. The Department stands adjourned until to-morrow at the usual hour.

FIFTH SESSION—THURSDAY MORNING.

WASHINGTON, *February* 6, 1879.

The Department met at 9.30 A. M.

Mr. J. O. WILSON offered the following preambles and resolution:

Whereas this convention of State and city superintendents of schools recognizes the necessity of industrial education in the public schools of America; and

Whereas, if a part of the time now given to writing in our day schools were devoted to drawing, the writing would be better and the power of drawing be a clear gain: Therefore

Resolved, That industrial drawing—consisting of geometrical drawing, free hand drawing, and elementary design—being now regarded as the common basis of technical education, should be taught in the public day schools as an elementary part of all general education; and that industrial drawing, modelling, and applied design for trades and manufactures should be taught to persons of both sexes in free evening classes for those who are not in attendance on the day schools.

The preambles and resolution were referred to the committee on resolutions.

On motion, it was agreed that the matter of a programme of exercises for the Department of Superintendence in connection with the meeting of the National Education Association at Philadelphia, in July next, be referred to the officers of the Department to act as they shall deem best.

Hon. GEORGE J. LUCKEY, superintendent of schools, Pittsburgh, Pa., addressed the convention respecting Professor Smith's paper. Himself a firm believer in industrial education, he agreed with Professor Smith in the main; but if Professor Smith would have us believe that the public schools in this country are on trial and are being condemned by the press and the public because their curriculum does not include industrial training, he would have to dissent entirely. On the contrary, he believed that the schools have never been so criticised and opposed as since the effort to introduce industrial training into their curriculum has begun. He could say positively that this was the case in Pittsburgh. In fact the superintendents and teachers of the country are in advance of public sentiment. He was not afraid of the result, nor did he apprehend any danger to the public school system from any such clamor. Professor Smith, he thought, was wrong in presenting this one thing as everything; though, being a specialist, it was only natural. The elocutionist, the teacher of writing, the teacher of music, undoubtedly think their specialties as important as Professor Smith does his.

Hon. M. A. NEWELL, superintendent of public instruction for the State of Maryland, agreed with Mr. Luckey that the people are not eager for industrial training; he thought them opposed to instruction in drawing. It is quite evident that there is some public discontent with the public schools, but the public as evidently does not know what change will be best for it. He was quite in favor of Mr. Wilson's motion.

Dr. HANCOCK believed that industrial training would, when affairs would admit, become a component part of the public school course. He thought the most dangerous tendency in the minds of many is to underestimate the value of a good general education; this is far more valuable than any partial course, whether industrial or not.

Dr. PHILBRICK said that it was by his efforts that Professor Smith had been invited to his present duty in Massachusetts. He therefore

had a personal as well as a professional interest in the professor's work and words. Professor Smith is a positive man, a man of positive views; his utterances may need discussion and limitation before being agreed to; but no man does or can fear judicious and candid criticism less than the professor. He could not agree with Professor Smith in his strictures on the general course of instruction, which criticisms would be opposed by all the wisest and best of American educators.

After a few more remarks, the resolution offered by Mr. Wilson at the opening of the session was reported and adopted unanimously.

EDUCATION AT THE PARIS EXPOSITION.

The PRESIDENT announced that Dr. John D. Philbrick would now address the Department on "Education at the Paris Exposition."

Having pleaded in excuse for coming before the Department without a carefully prepared paper, want of time since his return from abroad to prepare such a paper, and the fact that he had not engaged to prepare one, his name having been placed upon the programme without his knowledge or consent, he proceeded to speak at length without notes. For publication, however, the following abstract of his remarks is given:

I.—OUR OWN EDUCATIONAL EXHIBITION.

As Congress made no special provision for an exhibition of education at the Paris Exposition, it was for the Commissioner General to decide what should be done in regard to the matter. He took an enlightened and liberal view of the subject, but found himself unable to set apart for this purpose more than a limited space and a small sum of money; and the time left for preparation was exceedingly brief. The prospect was unpromising. Some leading educational men, whose opinions were entitled to the highest respect, deemed it under the circumstances unwise to attempt to make an exhibition; in the view of others, there were considerations which seemed to render a fair measure of success possible. These considerations were the assurance of the wise counsel and efficient aid of Commissioner Eaton, the offer of the use of the machinery of the Bureau of Education for communication with educational authorities, reliance upon the prompt and cordial coöperation of educational officials, and the expectation of obtaining a considerable proportion of the most characteristic and valuable of the materials comprised in the exhibits of the States represented at the Centennial. The anticipations based on these considerations proved to be well founded.

It was necessary, of course, to make the plan of the exhibition conform to the circumstances, and, consequently, in the choice of materials such objects had to be selected as would involve little or no expense, require but a short time in the preparation, and occupy the smallest possible amount of space. It was determined to prefer quality to quantity, to make a representation of the best things in each category without

regard to State lines or sections of the country rather than an exhibition en masse of things good, bad, and indifferent from every quarter. It was not, however, considered best to limit it to any one department or grade of education, but to make it, if possible, as comprehensive in scope as the official scheme itself of the educational department of the exposition, comprising the elementary, secondary, and superior grades of instruction, both general and special. In a word, the aim was to make a comprehensive, select, representative, national exhibition.

Four kinds of materials enter into the composition of an educational exhibition:

1. Illustrations of educational buildings with their furniture and fittings.

2. Illustrations and specimens of appliances and apparatus for instruction and training.

3. Scholars' work, literary, scientific, mechanical, and artistic.

4. Educational literature, embracing all printed matter bearing directly on education.

All these kinds were represented as fully as the space would permit. School architecture was illustrated by models, by framed drawings and paintings for wall display, and by portfolios of drawings, photographs, and engravings. In the department of apparatus and appliances for teaching the collection was limited chiefly to the elementary grade. Scholars' work ranged through all the grades, and the amount was very large. But I regard the collection in the department of educational literature as the most interesting and valuable part of the exhibition. It comprised about 2,500 bound volumes. The text book division was very full. It contained specimens of most of the text books issued at the present time by American publishers. The most important contribution to this department of the exhibition consisted of the reports and other publications of the Bureau of Education; in fact, these documents alone would have made an exhibition of which I should have been proud. Probably no one publication in the exhibition was more characteristic or more creditable to the country than the grand and I might say monumental Report on Public Libraries in the United States, which was the product of the Bureau of Education.

In the preparation of new materials for the exhibition, foremost in merit among cities were Washington and Cincinnati, and, among States, Kansas; the superintendent of schools of Wisconsin is entitled to special acknowledgments for his zeal and energy in collecting and forwarding materials.

The location assigned for the exhibition by the Commissioner General was excellent. The installation was not an easy task; the problem to be solved was to pack as much material as possible in a given space, and at the same time to pay due regard to the interests of individual exhibitors, to the demands of classification, to the convenience of visitors, and to the necessity of rendering the exhibition, as a whole, comely

in appearance, so as to produce a favorable impression upon the numerous observers who, in passing, paused for a moment only to get a general impression of the assemblage of objects presented to view. On the wall, above the maps, charts, and architectural illustrations, was placed in large gilt capitals the legend embodying the most characteristic fact in our school system: "L'instruction publique est gratuite dans tous les États de l'Union." This inscription was gazed upon and spelled out with absorbing interest by myriads of French peasants, and I have often heard French schoolmasters remark, on reading it, "That is what we are coming to." It was the hope inspired by the success of the new republic, and indeed the common republican sentiment made Frenchmen and Americans at the Exposition brothers.

But the exhibition was mainly intended, not for popular effect, but for the study and appreciation of experts. Inside our barriers we had no room for the general crowd, but we had space enough and a warm welcome for all inquiring educational men and women. These came in unbroken succession from the day of opening until the closing hour. We had something in our wide range of materials to present for examination to almost every inquirer. Teachers were generally most interested in our text books, and of text books our remarkable collection of geographies attracted the most attention. Well might they be interested, not only in the handsome text and superior illustrations of our geographies, but in the contrast which they afforded to the European geographies in respect to their impartiality in the treatment of foreign countries. I am told that a geographical text book was in use in England in 1878 in which the text devoted to the United States is limited to one sentence, stating that it is a country lying between Canada and Mexico; and the geography I found used as a text book in one of the best schools of Paris contained only about a third of a page of text on our country, of which the statistical part was quite obsolete. The very complete collective exhibit from the city of Washington was a very valuable feature in the exhibition, and was studied with much interest. Perhaps no part of the exhibition on the whole attracted more attention than that which related to the higher education of women. The institutions which represented this department of our system of instruction were Mt. Holyoke Female Seminary, Wellesley College, and Vassar College. A great number of copies of pamphlets relating to the organization, courses of study, statistics, &c., of these institutions were gratuitously distributed to visitors coming from every civilized nation.

The object of our exhibition was not to obtain prizes nor to glorify our system of education, but to contribute our quota of means to the grand enterprise designed to promote the general welfare. Still, it would be an unpardonable affectation to pretend to be indifferent to the judgments pronounced upon our merits by competent and impartial experts. I own that I take some pride, under the circumstances, in the fact that our little exhibition was found by the three juries on education to com-

tain objects worthy to receive *one hundred and twenty-one awards*, consisting of 28 gold medals, 44 silver medals, 24 bronze medals, and 25 honorable mentions—a number of awards greater by twenty-eight than was received by any other country except France. To the above awards should be added *six decorations*, bestowed in recognition of merit in connection with the exhibition, namely, one cross of the Legion of Honor and two gold and three silver palms of the University of France.

The materials of our exhibition were earnestly sought after by the educational representatives of several countries, but it seemed to me proper that in disposing of them France should have the preference. In this view the Commissioner General, and I think Commissioner Eaton, fully concurred. Accordingly, with the consent of the contributors, the greater part of the exhibition was offered to the French minister of public instruction, to be placed in the pedagogical library and museum which he had recently established in the Palais Bourbon in connection with an educational bureau of statistics, after the model of our National Bureau of Education, with M. Buisson as the chief. This offer was accepted by Minister Bardoux, in a grateful letter, in which he signified his intention to set apart a hall for the separate installation of the materials presented as a permanent American exhibition of education. Two rooms were actually appropriated to this purpose. In the distribution of materials, Japan had a moderate share, and a small quantity was sent to Italy, England, and Scotland.

For whatever success the exhibition had, the credit is primarily due to Hon. Richard C. McCormick, the Commissioner General, not only in consideration of the fact that he took the responsibility of deciding that an exhibition should be made, but also because of his cordial and intelligent coöperation in its direction. And his merit in this connection was properly recognized by the international jury by the award of a gold medal. The assistance and coöperation afforded by the Bureau of Education and its worthy chief were of very great value and could not have been dispensed with. The aid afforded by numerous individuals in sending desirable contributions cannot be mentioned here in detail, but the list of the awards and the special catalogue of the exhibition taken together show approximately the true roll of honor in connection with this enterprise. I say "taken together," for in the nature of things it was not possible for all objects to receive their just recognition by awards.

II.—THE EXHIBITIONS OF OTHER COUNTRIES.

The countries besides our own making considerable exhibitions were France, Belgium, Switzerland, Austria-Hungary, Russia, Japan, Italy, Spain, Canada, and the Netherlands. Several other countries had exhibitions of less importance. Unfortunately none of the German states was represented. The French exhibition far exceeded all others both in extent and in variety of materials. Besides the general exhibition under the auspices of the minister of public instruction, the city of Paris fur-

nished an admirable exhibit, and several important classes of special schools were exhibited separately by the ministers having charge of their administration. The Belgian exhibition, which was installed in an extensive annex, was very full and complete, and was admirably organized. The Austrian exhibition was less extensive, but in quality and arrangement was unsurpassed. Switzerland was especially strong in the elementary grade. The exhibition from Japan was very remarkable for the evidence it afforded of the rapid educational progress which has recently been made in that interesting country.

Looking at the exhibitions as a whole, there were two features which were especially conspicuous: first, the multiplicity and variety of appliances for intuitive instruction; and, secondly, the representation of systems and institutions for industrial education.

III.—FACTS, LESSONS, INFERENCES, AND GENERAL CONCLUSIONS.

Education is eminently an experimental science, and, although it may never be advisable for one community to copy the system in its details of another community, it is chiefly by the comparison of systems, organizations, and methods, rather than from theoretical speculations, that progress in education has been brought about. One of the causes of the superior development of education in Germany is doubtless to be found in the fact that the numerous systems of instruction existing in the states constituting the German nation have afforded peculiar facilities for the study of comparative education. In this respect our own country possesses unequalled advantages, which, by the machinery of the Bureau of Education, we are enabled to utilize.

So the chief utility of a universal exhibition of education consists in the means it affords for comparison and for obtaining information respecting the results of experiments in every department of education. In this respect the Paris Exposition was without doubt superior to all the universal expositions which preceded it. To report on the lessons it furnished was not a part of my engagement, that duty being assigned to a gentleman of excellent qualifications for the task, General Chamberlain, president of Bowdoin College and United States Commissioner to Paris for the State of Maine. However, I applied myself while at Paris none the less earnestly to the study of educational problems, being greatly stimulated and encouraged in this work by the exceptional facilities afforded for it.

I shall here attempt nothing like a complete and orderly statement of the facts, lessons, and suggestions derived from studies and observations in connection with the last Paris and the two preceding universal expositions. I present only a few facts and conclusions relating more especially to the educational questions at the present time more or less agitated among us.

1. The *crèche*, or day nursery for the care of children under three years of age whose mothers go from their homes to work, is an institution the

utility of which, especially in the larger cities, is generally recognized in European countries.

2. The infant school, for children between the age for the day nursery and the school age, is largely regarded in European countries as a very desirable, if not an essential, part of the public school system.

3. Improvement schools, or schools taught evenings or Sundays for pupils who have completed the regular elementary course of study, have been made in several countries a constituent part of the school system, and in some countries attendance at such schools is made compulsory.

4. Educational authorities regard no system of public instruction adequate that does not provide normal schools enough for the training of *all the teachers employed.*

5. The reports which have been during a few years past so much circulated in regard to the abolition of corporal punishment in foreign countries are mostly false.

6. Drawing is regarded by all the best authorities, from Michael Angelo down to the present time, as the foundation of all industrial education.

7. Drawing should be taught in all elementary schools; not only as being the foundation of industrial education, but as being the instrument of a general culture which every child should receive.

8. From the history of the progress of education throughout the civilized world, it is reasonable to infer that compulsory attendance is destined to become coextensive with the existence of public instruction.

9. The general tendency in all countries is to make all public schools entirely secular.

10. Tuition in public schools is not generally gratuitous or free, but it is rapidly becoming so.

11. The notion that the State should concern itself with elementary education only is condemned by the usage of nearly every nation in the world.

12. Schools for industrial instruction have been rapidly increased in recent years, but there are almost no schools for teaching mechanical trades supported at public expense.

13. Girls are universally taught needlework in public schools.

14. The school furniture in America is the best in the world, but in most foreign countries it is regarded as too costly for general use.

15. The most characteristic feature of school architecture in France is a large hall on the ground floor, where the pupils meet at recess to take their noon meal.

16. Every German school-house in the cities has a gymnasium attached.

17. It is believed that the barbarism of subjecting professional teachers to an annual election is unknown outside of our own country.

18. The public schools in *some* of our American cities, taking into

account all their appointments, are not inferior to the schools of any foreign city.

19. The proportion of female teachers in the public schools of America is too large for the best interests of education.

20. The history of education does not sustain the dogma that the coeducation of the sexes is the normal finality to which civilization is tending. The reverse is true.

21. Differentiation is the law of educational progress; that is, as education advances the kinds of institutions of instruction are multiplied and their functions are reduced in number.

On the invitation of the President, Hon. JOSIAH DENT, one of the commissioners of the District of Columbia, addressed the Department. He said that to him had been intrusted the duty of special attention to the schools and charities of the District. He recounted in a few sentences the peculiar position of the District as the creation of the National Government, and without autonomy of any kind; subject to extraordinary expense on account of its urban character and its position as the capital of the nation, yet unable, from its uncommercial position, to support these expenses without help. He trusted that members of the Department would use their efforts to inform their constituents and the National Legislature of the peculiar facts of the case.

The PRESIDENT then read the following letter, which the Department unanimously adopted as its official action, ordering its officers to sign the same and to spread it on the minutes:

NATIONAL EDUCATION ASSOCIATION,
DEPARTMENT OF SUPERINTENDENCE,
Washington, D. C., February 6, 1879.

SIR: Your fellow laborers in the work of education desire to record in some suitable form their appreciation of the ability and industry shown by you in the management of the educational exhibit from the United States in the Paris Exposition of 1878.

It was late when you were summoned to undertake this work, for which no preparations had been made and on the conduct of which the good name and fame of American teachers and teaching in other countries depended. With an energy and a judgment none the less noteworthy because anticipated by us, you collected the material and organized the exhibit at the eleventh hour in such form and order as to attract the attention of experts and enable the juries to perceive its value and its significance.

The result, so honorable to your profession and country and so gratifying to yourself, is too well known to need any mention.

For this service and success we beg to tender our grateful acknowledgments and our hearty congratulations.

We have the honor to subscribe this letter in behalf of this Department and by its order.

J. P. WICKERSHAM,
President of the Department,
J. J. BURNS,
Secretary of the Department.

Hon. JOHN D. PHILBRICK, LL. D. (St. Andrew's),
Officer of Public Instruction (France), Chevalier of the Legion of Honor, &c.

Mr. NEWELL, as chairman, presented the report of the committee on national legislation.

The committee was composed of the following gentlemen: Hon. M. A. Newell, State superintendent of public instruction of Maryland, chairman; Hon. W. T. Harris, LL. D., superintendent of city schools, St. Louis, Mo.; Hon. J. D. Philbrick, United States Commissioner to the Paris Exposition, Boston, Mass.; Hon. George J. Luckey, superintendent of city schools, Pittsburgh, Pa.; and Hon. Gustavus J. Orr, State school commissioner of Georgia.

Following is the report:

Your committee, to whom was referred the address of General Eaton on "The wants of the Bureau of Education," would hereby report that they have considered the same, and for the purpose of forming a more careful opinion of the needs and necessities of said Bureau of Education, they have visited the same and inspected its work, so far as possible, both as to amount and character. Your committee find the scope of the work undertaken by the Bureau to be strictly confined to the programme laid down for it by General Eaton in his able address. The objects and aims of this Bureau should be on all proper occasions set forth, in order to remove false and erroneous impressions that have gone abroad regarding its tendency to centralization of the control of public education.

The Bureau of Education disclaims through its founders, the Congress of the United States, and through all its advocates, including the teachers and school officers and directors of all parts of the country, any intention or tendency to interfere with the educational systems of any State or section of the country, or in anywise to exercise authority in the collection or dissemination of information; said Bureau neither having any such authority granted to it hitherto nor seeking to obtain such authority in the future, but leaving entirely to States and local self-government the organization and management of schools, and finding its proper sphere of usefulness in collecting and disseminating educational information through the voluntary coöperation of teachers and others engaged in educational work, and through the means afforded it by Congress. It accomplishes this work and renders it available by the following means:

First. Chiefly by its annual report, containing information as to the educational systems of the United States and foreign countries.

Secondly. By its educational library and museum, which benefit to some degree even the most distant localities through their influence upon the representatives of the people of all sections of the country assembled here in Congress or visiting the capital for business or other causes.

Thirdly. In furnishing information to Congress which shall guide in the preparation of laws relating to donations for the aid of education in the several States, or to such matters as the management and control of the Indians, the schedules for the national census, &c.

Fourthly. Its function in obtaining important educational information and plans and models of school architecture, apparatus, and furniture from foreign governments, and in reciprocating these favors by exchange.

With these objects and aims of the Bureau of Education clearly in view, your committee would further report in detail regarding the several items enumerated by the Commissioner as wants of his Bureau:

1. Your committee regard as of first importance the publication and distribution of the annual report of the Commissioner in an edition sufficient in size to furnish a copy of the same to each party contributing to the statistical information which it contains, and at least one copy to each superintendent of schools in cities, towns, and villages, to each president of school board, to each county superintendent or commissioner of schools, and to all teachers prominent in their influence upon the direction of the

methods of discipline or instruction. Such an edition your committee think should comprise at least 12,000 copies for the exclusive use of the Bureau, besides an edition published for the use of members of Congress to distribute to their constituents.

2. Your committee would further report in regard to the means and facilities for collecting statistics for this report, involving the work of examining the reports of education, domestic and foreign; the condensation of information in the form of abstracts and the translation of pertinent and valuable matter; the publication of Circulars of Information on special features of education in the systems at home and abroad; the distribution of the publications of the Bureau and of books and apparatus received from abroad—these things, together with the correspondence necessary, demand a considerable increase of the clerical force to enable the Bureau to accomplish its work to the best advantage.

3. Your committee find further occasion for an increase in the appropriation made to the Bureau in the flourishing condition of the pedagogical library and museum of school apparatus, containing all books on education published in this country or in foreign countries; also containing plans and models of buildings, furniture, apparatus, and exhibits of pupils' work. The proper arrangement and display of this material and the preparation of catalogues and inventories, together with the other work that has been named, demand, in the opinion of your committee, an addition to the present clerical force equivalent to four clerks and two copyists, which addition your committee recommend that this convention of superintendents ask of Congress in a memorial addressed to the proper committees of that body.

4. Your committee would further recommend that the memorial herein named should suggest to the committees of Congress addressed the importance of locating the Bureau of Education in permanent quarters, said Bureau having been removed five times within the nine years of its existence, and the provision of a fire-proof room or rooms for its library and museum, if possible.

5. Your committee would further indorse and approve of the provision for transportation and exchange of documents, apparatus, and models illustrative of educational methods, as recommended by Commissioner Eaton.

6. Your committee would further report that their personal examination of the several departments of the Bureau of Education enables them to confirm their previous impressions regarding the present efficiency of the management of said Bureau; and your committee take pleasure in stating that they believe that their own favorable impression regarding the present Commissioner's direction of this Bureau is shared by the teachers and directors of education generally in all sections of this country. Your committee therefore recommend that this convention of superintendents express their emphatic approval of the present conduct of said Bureau of Education, and their confidence in the measures inaugurated and carried out by the present Commissioner.

Mr. NEWELL, as chairman of the same committee, further said: The committee to whom was referred the paper read by Hon. G. J. Orr, after careful consideration of the recommendation therein contained in reference to legislation, have the honor to report that, in our opinion, the views of this body as expressed one year ago on devoting the proceeds of the sales of public lands to the support of primary schools in the various States, were wise, and that we should continue to urge upon Congress such action as will insure this result. We would further recommend that the valuable paper by Dr. Orr be published as a Circular of Information by the Bureau of Education.

On motion, the report of the committee on legislation was accepted and unanimously adopted.

The committee on resolutions reported as follows:

Resolved, That the thanks of this Department are due, and hereby tendered, to the board of education of the District of Columbia.

Resolved, That the chairman of this Department, Hon. James P. Wickersham, LL. D., superintendent of public instruction for the State of Pennsylvania, deserves our hearty thanks for the energy and ability with which he has conducted its affairs both before and during these sessions.

Resolved, finally, That the Commissioner of Education be requested to print and distribute the proceedings of this convention, and the papers read before us, as one of the Circulars of Information issued by his Office.

The resolutions were adopted.

The PRESIDENT. If there is no further business, I announce that the Department is now ready to make the visits referred to: First, to the President of the United States; next, to the Corcoran Art Gallery; and, third, to Hon. Carl Schurz, Secretary of the Interior. It is desirable that the members of the Department should go in a body. We are now ready for a motion to adjourn.

The motion to adjourn being made and carried, the Department of Superintendence was declared adjourned sine die.

APPENDIX A.

PROCEEDINGS OF THE DEPARTMENT OF SUPERINTENDENCE OF THE NATIONAL EDUCATION ASSOCIATION FOR 1877.

PROCEEDINGS OF THE DEPARTMENT OF SUPERINTENDENCE OF THE NATIONAL EDUCATION ASSOCIATION FOR 1877.

FIRST SESSION—TUESDAY MORNING.

WASHINGTON, D. C., *December* 11, 1877.

The Department of Superintendence met in the lecture room of the Congregational Church, December 11, 1877, and organized by electing Hon. J. P. Wickersham, of Pennsylvania, President.

The President thanked the Department for the honor done him in making him President, congratulated the members on the unusually full attendance, and proposed that work be begun.

He appointed Hon. J. Ormond Wilson of Washington, D. C., Hon. J. H. Smart of Indiana, and Hon. M. A. Newell of Maryland an executive committee to arrange and present all business for the consideration of the meeting.

After thanking the proprietors of the Ebbitt House for their kind offer of two parlors for its use, the Department proceeded to consider the proper representation of American education at the Paris Exposition of 1878.

President Wickersham was in favor of making an educational exhibit at Paris if a suitably qualified gentleman should be appointed to prepare and display it, and if a sufficient quantity of the appropriation should be set apart for the expenses of it.

It was moved and carried that President Wickersham be chairman and Messrs. E. A. Apgar of New Jersey, John Hancock of Dayton, Ohio, A. B. Lemmon of Kansas, and Neil Gilmour of New York the other members of a committee to consider the whole subject.

Hon. Ambrose E. Burnside, United States Senator from Rhode Island, then made a few remarks to the Department.

THE SCHOOL ORGANIZATION OF A STATE.

The executive committee announced "The best school organization for a State" to be the first subject for discussion, and called on Dr. John Hancock for the opening remarks.

Dr. HANCOCK deprecated criticism of extemporaneous talk such as his would be. Continuing, he expressed his individual wish to see a national university established in Washington City, and a national system of education organized and represented in the Federal Cabinet. Public instruction, in his opinion, needs unification and the stimulus

the nation can give. Every State should have a board of education, the members of which might be the governor and other high officers of the State. This board should select the State superintendent, and he should appoint a county superintendent for each county, and possibly the superintendents of the city schools. He would not carry unification so far that the school service would degenerate into a mere mechanism, but only far enough to keep up the standard both as to quantity and quality of instruction. Twenty years ago country schools in his State often taught algebra, geometry, physics, even Latin, and sometimes Greek. This was an incitement to pupils to go higher after leaving school; now pupils are occupied for the whole school curriculum in the same rudimentary branches, and receive no incentive to pursue the higher subjects. He thought nothing more important than the improvement of country schools, in which three-fourths of the people receive their whole scholastic training.

Mr. BARRINGER, of Newark, N. J., said that in New Jersey the State board of education appoints the State and county superintendents. He believed the State school organization should be permanent as well as comprehensive.

Mr. JOHN C. HERVEY, of Wheeling, W. Va., said that Dr. Hancock had described, substantially, the school system of West Virginia. The State board appoints the State superintendent and subordinate officers. Public school trustees are now appointed by electoral boards.

President WICKERSHAM would like to see this matter thoroughly examined. He did not doubt that educational interests will be organized by States: but State organizations differ greatly; some of them are composed of the State officers ex officio, and others of the State officers elect. The State officers are appointed sometimes by the governor, and the county officers sometimes elected by the people or elected by school boards as in Pennsylvania. Then in townships we have all sorts of organizations. He thought it a great question, one even of the first importance, what is the best school organization for a State and what the best method of appointing State officers, what the best way is of organizing the school force in counties and also in townships. Those schools that are best supervised are the best all the world over, and where we have a good organization the fruits of it will be apparent.

Mr. APGAR, of New Jersey, agreed with Dr. Hancock, but would go further; it is all important that the State board of education should be absolutely non-partisan. Another element of possible weakness is in the present division of counties into school districts, each having a district board and one school. The smallest school unit should be the township, and the township board should work directly with the county superintendent on one hand and the schools of the township on the other; the township schools compared with district schools can be much better graded, more economically supported, and far better supervised. Furthermore, Mr. Apgar thought that the State should raise by tax and

distribute an amount sufficient to meet the average expenses that are incurred, thus relieving most of the districts from local taxation; many districts are too poor to raise the necessary sum under the usual rules. He would in this, as in other matters, have the supreme authority of the State raise, disburse, and supervise the expenditure of the money.

Mr. GILMOUR said that all the gentlemen who had spoken seemed to be in favor of a State board of education; why, unless they think that such a board would select for State superintendent a man without political opinions, he did not know. He thought any one without decided opinions in politics would probably have no decided opinions respecting education. At the same time he would not select a man for superintendent simply because he is a politician. In the State of New York there is a board known as the Regents of the University. The gentlemen who form this board are charged with the supervision of the academies and colleges of the State and with other duties relating thereto. The regents are elected by joint ballot of the senate and assembly, and the legislature has invariably chosen gentlemen of much personal worth, distinguished for learning and ability. The gentlemen who have been so elected regents have discharged their duties with as much earnestness and fidelity as if they had been elected by a State board of education. The State superintendent of public instruction is elected in the same manner as the regents. When it is remembered that this method has given to the cause of education Victor M. Rice, whose whole soul was in his work, and who did much for the advancement of public instruction, and Henry H. Van Dyck and Abram B. Weaver, whose names will long live as earnest advocates of public schools, he thought it would be admitted that the legislature of New York had chosen its chief educational officers with as much good judgment and had made as good selections of men as could have been done by any State board of education. While only about twenty men in that legislature can be found who would cut off the normal school portion of the educational system of New York, he was willing to trust the interests of public instruction to such a body. The State superintendent of public instruction is directly responsible to the legislature and reports to that body. If at any time a State superintendent unworthy of the position or negligent in the discharge of his duties should be elected, the legislature can make provision in such a case. In New York school commissioners have supervision of the schools in the rural districts; in the cities, superintendents are charged with the duties of supervision and other matters relating to the schools under their care. School commissioners are elected by the voters of their respective districts. There is on the average outside of the cities more than one school commissioner to each assembly district. This is the best system of supervision that has yet been devised in New York, which has the school district system. He was satisfied that the township system is preferable, and looked for its adoption at no distant day.

New York has for several years raised by State tax about three million dollars for the support of the public schools; the rest of the amount necessary for their maintenance is raised by local taxation. The amount of money annually expended for public educational interests is between eleven and twelve million dollars; and no tax is more cheerfully paid than that which is levied for the purpose of preparing the children of to-day to become good citizens in the future.

Mr. LEMMON thought this a question that cannot be answered too soon. On its settlement much of the work of the future must depend. It is a question of equal importance to the older settled communities of the East, to the thousands that are to-day organizing society in the West, and to the South in its attempt to recover from the mistakes of the past. We believe that mental, moral, and physical development should be guaranteed to every child; that our Government depends upon the intelligence of the people for its very existence; that it is only in schools organized, controlled, and in great part supported by the State that the mass of the children ever will or can be educated; and that the State should make ample provision for the school training of all its children. How can this educational work be done by the State in the best manner and at the least expense? For a century we have been trying experiments, and to-day we find that no two States have exactly the same system. Each one of these systems has its weak and its strong points. Can we combine these best features in a system that shall be better than any that has yet been tried? Reference has been made to the East and to what has been done there. You of the East can speak from experience. Your plans have been tried longer than have ours of the West. Some of us have not tested any system long enough to learn its real worth; we expect to get many valuable lessons from your experience. If your plans are not the best, we do not, after you have tried them so long, want to be forced to test them ourselves. As to the subdivision of territory for school purposes he would ask, What should be the unit of subdivision in a State educational system? Two general plans of districting a State for school purposes have been tried. They may be designated as the independent district and the township plans. Kansas has had the independent district plan for seventeen years and is not satisfied with it. It has been given a fair trial, and if it could be successful anywhere it would be so in that State, because most of the inhabitants have been educated in eastern schools. They believe in education. They know its advantages and they are determined that the State of their adoption shall stand second to none. They are the kind of people who make the best of everything. They have dotted the prairies with school-houses that would be a credit to any State in the Union. Year by year they have increased the length of the school term and improved their methods of instruction. Under this system of districting much has been accomplished, but many are now inquir-

ing it another and a better plan cannot be devised. Some of the defects of the independent district system may be briefly stated as follows:

First. It requires too much machinery. Kansas now has about five thousand of these school organizations, requiring a little army of fifteen thousand district officers. It is impossible to secure complete and accurate reports of the work done and money expended in many of these districts.

Secondly. The wishes of some influential men in the neighborhood are too often followed in the formation of school districts and the selection of sites for school-houses. This gives districts of greatly varying sizes, shapes, school population, and taxable property, and school-houses often very inconveniently situated.

Thirdly. The influence of the teacher and the progress of the school are too likely to be impaired by neighborhood quarrels that are constantly arising. The management of the school should be removed as far as possible from these local disturbances.

Fourthly. Under this plan of districting it is next to impossible to secure systematic work in the schools of any given territory. Each district is a little kingdom in itself, having nothing in common with its neighbors. Its text books, rules, plans, and general school arrangements may be unlike those of any surrounding districts.

Many other defects of this system might be stated. The longer it is tried the more apparent its defects become. The people of Kansas are tired of it, and are ready to take a step forward in building up a State school system. In Illinois each congressional township is a school district. Mr. Lemmon thought that that plan cannot be recommended for a State having thousands of school-houses already built. In Kansas they would try to secure the enactment of a law making each municipal township a separate school organization. This will do away with four-fifths of the officers, and give a system under which they hope to make more rapid growth in the future than in the past.

Mr. JILLSON, ex-State superintendent of South Carolina, said that while uniformity of systems might be desirable theoretically, it would be unsafe unless there were an equal development of educational experience and spirit in all localities. His own experience led him to oppose election as a method of choosing school officers, because candidates are very often quite incompetent and difficult to get rid of. He would suggest:

1. That there should be a State board of education, to consist, perhaps, of the governor, because he is the chief executive officer of the State; of the attorney general, because he is the State's chief legal adviser, and of three other gentlemen connected with eminent institutions of learning in the State; one of these should be appointed by the governor once every three years, and one for one year. Such a plan would create a vacancy in the board at the end of each year. Let the appointment of a State superintendent be placed in the hands of this board, with power and authority to remove for cause. In this, as well as in all other cases,

the authority to appoint should always be supplemented with power to remove for cause.

2. A county board of education, consisting of the county superintendent and two other members, to be appointed by the State board of education.

3. A board of school trustees for each township or school district, consisting of three members, to be appointed by the county board of education.

4. A city board of education, to be appointed by the State board of education, or by the mayor by and with the consent of the board of aldermen, and to be clothed with authority to appoint the city superintendent.

Forbearing to discuss in detail the various powers and duties to be conferred upon these several educational boards, the speaker added that all educational matters and interests should be as far removed as possible from the influence of partisan politics. As to the means and methods of raising funds for the support of public schools, he would mention three sources of school revenue, namely: First, a general State levy for public school purposes; second, a poll or capitation tax; third, a local levy. It should be a condition that no city, town, or school district should be entitled to receive its pro rata share of the proceeds of the general State school levy unless it would by voluntary action on the part of its qualified electors levy upon itself a reasonable local school tax. The proceeds of the State school levy should be apportioned on the basis of school attendance. Those school districts which have tried the experiment of local taxation for public school purposes have increased the same from year to year and have augmented the efficiency and number of their public schools in a corresponding ratio. In the city of Charleston, for instance, they have an annual local school levy of one and one-half mills, and they are able, by means of their local taxation, together with the poll tax and their portion of the State levy for public school purposes, to continue their public schools for ten months in the year, and their schools are very good indeed, the best in the State. The ultimate efficiency and success of any system of common education depend, in a great measure, upon the public spirit of the people on the question of local school taxation. The gentleman from New York has spoken of State legislatures as bodies to be relied upon in the grave and important matters of educational interests and welfare. Mr. Jillson could not agree entirely with this opinion. He believed it to be the best and safest plan to have school officers appointed, and to have some quick and sure methods of disposing of such officers when they do not do their duty.

President Wickersham then introduced to the Department Hon. George B. Loring, M. C., of Massachusetts, and Hon. Edwin Willits, M. C., of Michigan. At his invitation, Mr. LORING spoke as follows:

Gentlemen, I do not feel authorized to take part in this discussion of the organization of the schools in the various States, more especially as I understand that Mr.

Dickinson, the secretary of the board of education in Massachusetts, will be here to speak for that Commonwealth and the work going on there in the cause of good learning. But I am interested in the business of education as you all are, and were I not I should be false to the traditions and sentiments of the people whom I represent. Massachusetts abounds in schools of every description: common schools, high schools, colleges, and industrial schools, devoted to teaching all the arts of life. In this work she stands by the side of the most active of her sister States, that she joins here in the admirable service of comparing the various systems in operation in our country and of endeavoring to ascertain the most effectual method of organizing a uniform system throughout the country. The investigation is interesting. Useful as the plan now in operation is acknowledged to be, I am impressed with the idea that there is room for improvement. Are you all confident that the system of graded schools is perfect in all its operations? Have we not reduced the work of education too much to the artificial operation of machinery, and cooled the inspiration and ardor which should attend it? Does the system bring out well drilled and well grounded scholars, whose knowledge is general and available at all times? It may be that my doubts are unfounded in this matter, but a recent experience in the district which I have the honor to represent in Congress has arrested my attention and has filled my mind with grave apprehensions with regard to the important and intricate work of education which we have organized. Not many months ago a competitive examination of candidates for admission to West Point was instituted by my predecessor in Congress. The committee to whom the work was assigned was well selected, and the candidates to the number of twenty came from the high schools in the district. The examination was carefully and fairly conducted; and the questions, which were submitted in writing, were judiciously divided among the studies ordinarily pursued by scholars in the best organized schools. Of the twenty boys examined but one was found to be in any way fitted, and he, on examination at West Point, was rejected on so many points that he could not be nominated again. A second attempt followed with but little better success, ten boys having been examined and but one found so qualified as to secure for himself admission and good standing at the Military Academy. As the fruits of a graded system of schools, these facts are entitled to careful consideration. These boys may have been accomplished for certain specific purposes, they may have been well educated in the branches taught in the high schools whence they came; but they were manifestly deficient in general culture and in that varied accomplishment required for admission into the higher institutions of the land. The work devoted to them may have been well done, but it was not so done as to serve their purpose. Now, this was not so under a system once in vogue in our country, a system especially perfected in the county of Essex, in which my district is situated. That county has won an enviable reputation for its institutions of learning and for the large number of cultivated and able men whom it has sent into the various walks of life. For more than a century it has been renowned for its jurists, statesmen, theologians, scholars. Its leading minds have performed great service in every public walk. The colleges, all the institutions of higher learning, have been filled with its distinguished sons. In the days of her academical modes of education, when a classical school, so called, was to be found in all the large towns, and every district had its humble school-house for mixed and general education, the educated young men of Essex were so taught that they considered their presentation to higher institutions equivalent to admission. The cause of the change from this fortunate condition I will not undertake to discuss. I leave that for you who are engaged in the business which has brought you together. If, as I have suggested, more general culture is required, may not the high school system be so modified as to partake a little of the old academic method and to result in a little of the old academic accomplishment? Is there not a middle ground between graded and mixed education better than either? I leave these suggestions to your own investigation, with the assurance that I shall accept your verdict with confidence

and satisfaction, and shall be ready to consider the question more elaborately at some future time should an opportunity be offered. I am sure your deliberations will be of great value to the educational work of our country.

Mr. J. H. SMART, resuming the discussion, said that the weak point in the usual way of choosing a State superintendent is the danger of losing a competent and experienced officer by failing to reëlect him. A State superintendent, to be thoroughly useful, should be retained in office long enough to acquire the respect and coöperation of the teachers and the confidence of the legislature. This cannot be accomplished in a year or two. A properly constituted State board is a compensation for this evil to some extent. In Indiana the governor, the presidents of the State university and of the State agricultural college, the principal of the State normal school, and the superintendents of the three most populous cities form the board, of which the State superintendent is ex officio the presiding officer.

Dr. HENRY BARNARD remarked that there are great numbers of children now educated in the public schools who could not have been instructed by any other instrumentality.

Mr. HANCOCK said that if Mr. Loring is right the educators of the country are entirely wrong. He thought that the experience of the Essex district pupils had been very unfortunate. All his school work in Ohio had not shown any such case. He had known every candidate for admission to West Point from Cincinnati for fifteen years, and no candidate from the public schools had ever failed to pass the required examination.

President WICKERSHAM, reminding members that the subject of discussion was the organization of a State system, said that in Pennsylvania the State superintendent is appointed for four years by the governor and must be confirmed by a two-thirds vote of the State senate. This plan had been found to work satisfactorily; sometimes a State board had not worked so well. Directors of school districts are elected by the people. County superintendents are elected triennially by the directors of school districts. County and city superintendents may be, and have been, removed for cause by the State superintendent, or their pay can be suspended by that officer. The superintendents are thus a well organized corps of public servants; and this system has done great things for education in Pennsylvania.

Mr. HANCOCK thought that the people would not know the qualification of candidates for school director sufficiently well to elect the most suitable persons. This is the weak point in the Pennsylvania plan.

The matter was then referred to a special committee, consisting of Messrs. Hancock, Smart of Indiana, and Wickersham, with directions to report during the session.

Messrs. Newell of Maryland, Wickersham of Pennsylvania, Orr of Georgia, Bowman of Kentucky (University), Hancock of Dayton, Ohio, Tarbell of Michigan, Lemmon of Kansas, Gilmour of New York, and

smart of Indiana were appointed a committee to consider the subject f the National Bureau of Education, its museum, and a national educa-ion fund.

The executive committee reported the following programme for the emainder of the session:

Tuesday evening, at 7.30, a paper by General John Eaton, United States Commissioner of Education, on "What has been done by the General Government in aid of education," to be followed by a general liscussion.

Wednesday morning, at 10 o'clock, a paper by Hon. Dr. Loring, of Massachusetts, on "The object of American education," to be followed by a discussion; in the evening, a lecture by Dr. Runkle, of Boston, on "Industrial education with reference to public schools."

The Department then adjourned to meet in the evening at 7.30.

SECOND SESSION—TUESDAY EVENING.

WASHINGTON, D. C., *February* 4, 1879.

The Department was called to order by the President at 7.30 P. M.

The executive committee announced that the President of the United States would receive the members of the Department to-morrow immedi-ately after the adjournment of the morning session at 12.30 P. M.; after he reception, the members would visit the Corcoran Art Gallery and hen pay their respects to Hon. Carl Schurz, Secretary of the Interior. At 2 P. M. the teachers of the District of Columbia would meet in the audience room of the church and be addressed by Hon. John W. Dickin-on, of Massachusetts, and Hon. E. A. Apgar, of New Jersey. It was urther announced that President Hayes would be present at the session o be held to-morrow evening; and that on Thursday morning at 10 'clock the subject of "Education in the South" would be taken up, and he discussion opened by Hon. Gustavus J. Orr, State school commis-ioner of Georgia.

NATIONAL AID TO EDUCATION.

The United States Commissioner of Education read a paper on "What as been done by the General Government in aid of education,"[1] which as follows:

OPINIONS OF THE FATHERS.

Mr. President: Belief in the importance of education was not a mere 'ourth of July sentiment with the fathers of the Republic. Wash-igton, in his first annual message, observed: "Knowledge is in every ountry the surest basis of public happiness. In one in which the meas-

[1] In collecting the facts contained in this paper I have been aided by Capt. Rafael . Bayley, of the Treasury Department, and also especially by Maj. S. N. Clark, for ome time an assistant in this Office. The foot notes to the following paper were not ead on this occasion; about three pages of statistical items reprinted here originally ppeared in the annual Report of the Commissioner of Education for 1876.

ures of government receive their impressions so immediately from the sense of the community as in ours, it is proportionably essential;" and he proceeded specifically to define its benefits and importance. Again, in his eighth annual message, he recommended the establishment of a national university and of a national military academy; and in his farewell address occur those memorable words, familiar to every American:

Promote, then, as an object of primary importance, institutions for the general diffusion of knowledge. In proportion as the structure of a government gives force to public opinion, it is essential that public opinion should be enlightened.

His opinions he sustained by his final action in his will, making bequests to the academy in Alexandria, and to Liberty Hall Academy, also in Virginia, and by bequeathing a sum for the establishment of a national university in a central part of the United States.

In a private letter of September 1, 1796, to Hamilton, after mentioning his favorite scheme of a university at the capital of the nation, he alludes to the proposed gift to him of river improvement stock by the State of Virginia. Refusing to accept the stock as a gift to himself, he received it as a *trust* only, and conveyed it in his will for this cherished purpose in the following words:

I have not the slightest doubt that this donation (when the navigation is in complete operation, which it certainly will be in less than two years) will amount to £1200 or £1500 sterling a year, and become a rapidly increasing fund. The proprietors of the Federal City have talked of doing something handsome towards it likewise; and if Congress would appropriate some of the western lands to the same uses, funds sufficient and of the most permanent and increasing sort might be so established as to invite the ablest professors of Europe to conduct it.

The writings of John Adams, the second President, are pervaded with expressions of his appreciation of education; in his last days, "when," as he said, "blind and paralytic, I am incapable of research or search," he wrote to the committee in Kentucky as follows:

The wisdom and generosity of your legislature in making liberal appropriations in money for the benefit of schools, academies, colleges, and the university, is an equal honor to them and their constituents: a proof of their veneration for literature and science, and a portent of great and lasting good to North and South America and to the world. Great is truth, great is liberty, and great is humanity, and they must and will prevail.

Informing them that he would commend their desires to others, he proceeded to state his views of the beneficial results of the action of Massachusetts in behalf of education.

Jefferson, in his sixth annual message, advocating the continuance of the tax on imports, observed that —

Patriotism would certainly prefer its continuance and application to the great purposes of the public education, roads, rivers, and canals.

Again, in his eighth annual message, calling attention to the surplus revenue in the Treasury, he asked:

Shall it lie unproductive in the public vaults? Shall the revenue be reduced? Or shall it not rather be appropriated to the improvements of roads, canals, rivers, educa-

tion, and other great foundations of prosperity and union, under the powers which Congress may already possess, or such amendment of the Constitution as may be approved by the States?

Mr. Jefferson's scheme of education for Virginia comprehended in his own words:

1st. Elementary schools, for all children generally, rich and poor. 2d. Colleges for a middle degree of instruction, calculated for the common purposes of life, and such as would be desirable for all who were in easy circumstances. And 3d, an ultimate grade for teaching the sciences generally and in their highest degree.

Only the university part of this scheme succeeded. His plan for elementary and secondary education was too far in advance of public sentiment in the State, and therefore failed. He continued, however, to press most earnestly his ideas upon leading minds. In a letter to Mr. Cabell, dated November 28, 1820, lamenting the low state of education in Virginia,[1] he wrote that more money from the people was not needed, but that the money raised for education "should be employed understandingly and for the greatest good." He continued:

That good requires that, while they are instructed in general competently to the common business of life, others should employ their genius with necessary information to the useful arts, to inventions for saving labor and increasing our comforts, to nourishing our health, to civil government, military science, &c.

Would it not have a good effect for the friends of this university[2] to take the lead in proposing and effecting a practical scheme of elementary schools, to assume the character of the friends rather than the opponents of that object?

In a letter to Governor Nicholas, dated April 2, 1816, in which he outlined his scheme of education, he said of elementary education:

My partiality for that division is not founded in views of education solely, but infinitely more as the means of a better administration of our government and the eternal preservation of its republican principles.[3]

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[1] Jefferson's Works, xvii, 187. In the same letter Jefferson said: "Surely Governor Clinton's display of the gigantic efforts of New York towards the education of her citizens will stimulate the pride as well as the patriotism of our legislature, to look to the reputation and safety of their own country, to rescue it from the degradation of becoming the Barbary of the Union and of falling into the ranks of our own negroes. To that condition it is fast sinking. * * * The present plan [of public education] has appropriated to primary schools forty-five thousand dollars for three years, making one hundred and thirty-five thousand dollars. I should be glad to know if this sum has educated one hundred and thirty-five poor children? I doubt it much. And if it has, they have cost us one thousand dollars apiece for what might have been done for thirty dollars."

[2] The University of Virginia.

[3] Jefferson's Works, vi, 566. Jefferson neglected no opportunity to press the claims of education on the attention of members of the Virginia legislature. In a letter to Colonel Yancey, dated January 6, 1816, he said: "I recommend to your patronage our Central College. I look to it as a germ from which a great tree may spread itself." Further on in the same letter he reverted to the subject of education as follows: "The literary fund is a solid provision, unless lost in the impending bankruptcy. If the legislature would add to that a perpetual tax of a cent a head on the population of the State, it would set a-going at once and forever maintain a system of primary or ward

President Madison, in his inaugural address March 4, 1809, enumerating and formulating the principles which he considered necessary for the preservation of the public welfare and by which he pledged himself to be governed, specifies this: "To favor in like manner the advancement of science and the diffusion of information as the best aliment to true liberty."

In his second annual message he again and again enforced the importance of general education and of the establishment of a national university.[1]

Mr. Monroe, in his inaugural address, March 4, 1817, observed:

Had the people of the United States been educated in different principles; had they been less intelligent, less independent, or less virtuous, can it be believed that we should have maintained the same steady and consistent career or been blest with the same success? While, then, the constituent body retains its present sound and healthful state everything will be safe. * * * It is only when the people become ignorant and corrupt, when they degenerate into a populace, that they become incapable of exercising the sovereignty. Usurpation is an easy attainment and an usurper soon found. The people themselves become the willing instruments of their own debasement and ruin. Let us look to the great cause and endeavor to preserve it in full force. Let us by all wise and constitutional measures promote intelligence among the people as the best means of preserving our liberties.

In his first annual message to Congress, John Quincy Adams called attention to the recommendations of his predecessors in regard to edu-

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schools and an university where might be taught in its highest degree every branch of science useful in our time and country. * * * If a nation expects to be ignorant and free in a state of civilization, it expects what never was and never will be. The functionaries of every government have propensities to command at will the liberty and property of their constituents. There is no safe deposit for these but with the people themselves; nor can they be safe with them without information. Where the press is free and every man able to read, all is safe."—(Works, 517.)

[1] He said: "Whilst it is universally admitted that a well instructed people alone can be permanently a free people, and whilst it is evident that the means of diffusing and improving useful knowledge form so small a proportion of the expenditures for national purposes, I cannot presume it to be unreasonable to invite your attention to the advantages of superadding to the means of education provided by the several States a seminary of learning instituted by the national legislature, within the limits of their exclusive jurisdiction, the expense of which might be defrayed or reimbursed out of the vacant grounds which have accrued to the nation within those limits." Mr. Madison's sentiments regarding the importance of public education are often expressed in his letters. Writing to W. T. Barry, of Kentucky, under date of August 4, 1822, he said: "The liberal appropriations made by the legislature of Kentucky for a general system of education cannot be too much applauded. A popular government, without popular information or the means of acquiring it, is but a prologue to a farce or tragedy, or perhaps to both. Knowledge will forever govern ignorance; and a people who mean to be their own governors must arm themselves with the power which knowledge gives."—(Works of Madison, iii, 276.) Again, March 29, 1826, writing to Littleton Dennis Teackle, of Maryland, congratulating him on the enactment of a law providing for primary schools in that State, he says: "The best service that can be rendered to a country, next to that of giving it liberty, is in diffusing the mental improvement equally essential to the preservation and the enjoyment of the blessing." (Works, 523.)

cation and alluded approvingly to the Military Academy at West Point. And again, after enumerating most of the specific powers of the General Government under the Constitution, he continued:

If these powers and others enumerated in the Constitution may be effectually brought into action by laws promoting the improvement of agriculture, commerce, and manufactures, the cultivation of the mechanic and of the elegant arts, the advancement of literature, and the progress of the sciences, ornamental and profound—to refrain from exercising them for the benefit of the people themselves would be to hide in the earth the talent committed to our charge, would be treachery to the most sacred of trusts.

GENERAL APPROPRIATIONS OF PUBLIC LANDS.

We have not the full expression of sentiment on this point in the Congresses that antedated the Constitution, but the framers of that instrument illustrated their views in favor of education by the most practical measures. It is well known that in different colonies a policy had been carried out, in the organization of counties and towns, of setting apart certain amounts of land for education.

In 1784 Georgia adopted regulations for the survey of lands in the western part of the State, requiring that in each county 20,000 acres of land of the best quality, in separate tracts of 5,000 acres each, should be set apart for the endowment of a collegiate seminary of learning.

In the Congress of the Confederation Mr. Jefferson, in May, 1784, as chairman of the committee on the organization of the western territory, made a report which provided "that there shall be reserved the central section of every township for the maintenance of public schools, and the section immediately adjoining the same for the support of religion." After debate, the provision for setting apart the section for the support of religion was stricken out. And, as finally adopted on May 20, 1785, the ordinance provided that "there shall be reserved lot No. 16 of every tos ı p for the maintenance of public schools."

So far as can be judged from the meagre record that has been preserved, the opposition was to the grant of land in aid of religion, and there was substantial unanimity in favor of the grant for education. This ordinance was finally incorporated in the ordinance of 1787.

In his first speech on Mr. Foote's resolution relative to the public lands, January 20, 1830, Daniel Webster observed:

We are accustomed to praise the lawgivers of antiquity; we help to perpetuate the fame of Solon and Lycurgus; but I doubt whether one single law of any lawgiver, ancient or modern, has produced effects of more distinct, marked, and lasting character than the ordinance of 1787. * * * It fixed forever the character of the population in the vast regions northwest of the Ohio by excluding from them involuntary servitude. It impressed on the soil itself, while it was yet a wilderness, an incapacity to sustain any other than free men. It laid the interdict against personal servitude in original compact, not only deeper than all local law, but deeper also than all local constitutions. Under the circumstances then existing, I look upon this original and seasonable provision as a real good attained. We see its consequences

at this moment, and we shall never cease to see them, perhaps, while the Ohio shall flow.[1]

Repeated attempts were made by the friends and advocates of slavery in Congress early in this century to repeal the ordinance of 1787, but they were always defeated, on the ground stated by Mr. Webster.

In his celebrated speech in reply to Hayne, January 26, 1830, Mr. Webster said:

Having had occasion to recur to the ordinance of 1787, * * * I am not willing now entirely to take leave of it without another remark. It need hardly be said that that paper expresses just sentiments on the great subject of civil and religious liberty. Such sentiments were common and abound in all our state papers of that day. But this ordinance did that which was not so common, and which is not even now universal; that is, it set forth and declared it to be a high and binding duty of government itself to support schools and advance the means of education, on the plain reason that religion, morality, and knowledge are necessary to good government and to the happiness of mankind.

The ordinance of 1787 was followed in 1803 by an act of Congress granting the sixteenth section of each township in the Mississippi Territory for education, and, later, by similar enactments for other territorial acquisitions, except Texas, which retained the title to her public lands under a bargain made at the time of her admission into the Union.

In 1805 the legislative council and house of representatives of the Territory of Orleans memorialized Congress in favor of a grant of lands for public schools. On February 27, 1806, the committee of the House of Representatives to which these memorials were referred submitted a favorable report, in which they said:

Your committee are of opinion it ought to be a primary object with the General Government to encourage and promote education in every part of the Union, so far as the same can be done consistent[ly] with the general policy of the nation and so as not to infringe the municipal regulations that are or may be adopted by the respective State authorities on this subject.

The benefits resulting to society in general from the establishment and support of public institutions for the education of youth and the general diffusion of science, are too well known to all discerning persons to require any particular investigation on the present occasion. The National Legislature has by several of its acts on former occasions evinced in the strongest manner its disposition to afford the means of establishing and fostering, with a liberal hand, such public institutions.[2]

The State of North Carolina, in 1790, ceded to the United States her "western lands," which comprised the present State of Tennessee.[3]

[1] Webster's Works, iii, 263, 264. The provision of the ordinance to which Mr. Webster referred was as follows: "There shall be neither slavery nor involuntary servitude in the said territory, otherwise than in the punishment of crimes whereof the party shall have been duly convicted."

[2] American State Papers, Public Lands, vol. 1, p. 258.

[3] It will be remembered that before this, in 1785, the inhabitants west of the mountains had set up a State government under the name of Franklin. A legislature was convened, and third among the fourteen acts passed at its first (and only?) session was one for "the promotion of learning in the county of Washington." This was the first legislative action west of the Alleghanies for the encouragement of learing. Under the provisions of the act Martin Academy was founded.—(Ramsey's Annals of Tennessee, p. 294.)

1806 the United States ceded all the public lands remaining in the State to Tennessee on certain conditions, one of these being that one hundred thousand acres of land should be set apart for the use of two colleges, the same amount for the support of academies, the lands so set apart to be subject to the disposition of the legislature at not less than $2 an acre, "and the proceeds of the sales of the lands aforesaid shall be vested in funds for the respective uses aforesaid forever. And the State of Tennessee shall moreover, in issuing grants and perfecting titles, locate six hundred and forty acres to every six miles square in the territory hereby ceded, where existing claims will allow the same, which shall be appropriated for the use of schools for the instruction of children forever."[1]

The policy inaugurated by the ordinance of 1787 was not confined to the Northwest Territory. In the act approved March 3, 1803, providing for the disposal of lands belonging to the United States south of Tennessee, the reservation was made of lot No. 16 of each township and of an entire township for the purposes of common school and university education.

From that time until 1848, on the organization of each new Territory similar provisions were made for public education. In that year, on the organization of the Territory of Oregon, the quantity of land reserved for the benefit of common schools was doubled; and to each new Territory organized and State admitted since, except West Virginia, the sixteenth and thirty-sixth sections of every township, one-eighteenth of the entire area, have been granted for common schools.

To each State admitted into the Union since the year 1800, except Maine, Texas, and West Virginia, and to the Territories of New Mexico, Utah, and Washington, have been granted two or more townships of land to endow a university. The States that received more than two townships, or 46,080 acres, are: Ohio, 69,120 acres; Florida and Wisconsin, 92,160 acres each; and Minnesota, 82,640 acres.

In 1862 the law granting lands to each State to endow colleges of agriculture and the mechanic arts was enacted. The lands granted to the several States under this act aggregate 9,600,000 acres.

The State of Texas, on her admission into the Union, retained the title to her public land, and is consequently excepted from the grants to endow common schools and universities; but she shared the benefits of the act endowing colleges of agriculture, receiving as her share land scrip representing 180,000 acres.[2]

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[1] United States Statutes at Large, vol. 2, p. 383.

[2] In 1839 the Republic of Texas set apart three leagues (13,284 acres) of land in each county for the support of a common school or academy therein, and the following year increased the grant to each county for this purpose to four leagues, or 17,712 acres. By the act of 1839, fifty leagues, or 221,400 acres, were granted for university purposes. Since her admission into the Union, and since the civil war, Texas has reaffirmed her consecration of these lands to the purpose for which they were thus designated, and added by constitutional provisions to these liberal grants in aid of education by

INDIVIDUAL GRANTS OF LAND.

Besides the general grants there have been special grants of land and buildings to institutions of learning in several States and Territories, as follows:

	Acres.
Alabama.—Lafayette Academy	480
Connecticut.—Asylum for the education of the deaf and dumb	23,040
Dakota.—Holy Cross Mission	160
Florida.—Chattahoochee arsenal, buildings, lands, &c., to State	
Georgia.—Dahlonega arsenal, grounds, buildings, &c., for agricultural college.	10
Kentucky.—Asylum for the education of the deaf and dumb; benefit transferred to Centre College.	22,400
Louisiana.—Pine Grove Academy (quitclaim by the United States)	4,040
Michigan.—Public schools, Sault Ste. Marie	1.26
Public schools, Mackinac, lot and building	
Minnesota.—Domestic and Foreign Missionary Society of the Protestant Episcopal Church.	80
Mississippi.—Jefferson College, outlot at Natchez	30
Tennessee.—Fisk University, Nashville, land and buildings	3.25
West Virginia.—Storer College, four lots and buildings at Harper's Ferry	
Missouri.—Under acts of June 13, 1812, May 26, 1824, and January 27, 1831, confirming to inhabitants of certain towns certain outlots, commons, &c., for purposes of education, as follows:	
Portage des Sioux	298.38
St. Charles	68.79
St. Louis	394.86
St. Ferdinand	33.30
Villa A. Robert	12.39
Carondelet	37.10
Ste. Geneviève	561.68

The quantity of land thus granted, aside from lots the area of which is unknown, is 51,651.01 acres.

By an act of September 4, 1841, 500,000 acres of land were granted to each of the following States, for the purpose of internal improvement, viz: Alabama, Arkansas, Illinois, Indiana, Louisiana, Michigan, Mississippi, and Missouri; and the same grant has been made to each State since admitted into the Union, except Texas and West Virginia. The quantity of land thus granted is 9,000,000 acres. Six of the States since admitted into the Union—California, Iowa, Kansas, Oregon, Nevada, and Wisconsin—have set apart the proceeds of the sales of these lands, by provisions in their respective constitutions, for the benefit of free schools.

PROCEEDS OF SALES OF PUBLIC LANDS.

At an early period Congress inaugurated the policy of granting a portion of the net proceeds of the sales of public lands to the States in which they were situated. Thus, in 1803 an act was passed granting 3 per

reserving the alternate sections of land granted to railroads and other corporations, together with the entire proceeds of all future sales of public lands. Texas has also made a grant of 1,000,000 acres for the endowment of a branch college of the State university for the benefit of the colored people.

cent. of such net proceeds to the State of Ohio for "laying out, opening, and making roads within the said State, and to no other purpose whatever; and an annual account of the application of the same shall be transmitted to the Secretary of the Treasury." Similar grants (in some cases of 3 and in others of 5 per cent.) have been made to the States admitted into the Union since Ohio, except to Maine, Texas, and West Virginia, in none of which did the General Government possess any public land. In some States the grants were dedicated to purposes of internal improvement, in others to education. The terms of the grant to Illinois are as follows:

SEC. 1. *Be it enacted, &c.*, That the Secretary of the Treasury shall, from time to time, and whenever the quarterly accounts of public moneys of the several land offices shall be settled, pay three per cent. of the net proceeds of the lands of the United States lying within the State of Illinois which since the first day of January, one thousand eight hundred and nineteen, have been or hereafter may be sold by the United States, after deducting all expenses incidental to the same, to such person or persons as may be authorized by the legislature of the said State to receive the same; which sums, thus paid, shall be applied to the encouragement of learning within said State, in conformity to the provisions on this subject contained in the act entitled "An act to enable the people of the Illinois Territory to form a constitution and State government, and for the admission of such State into the Union on an equal footing with the original States," approved April eighteenth, one thousand eight hundred and eighteen, and to no other purpose; and an annual account of the application of the same shall be transmitted to the Secretary of the Treasury by such officer of the State as the legislature thereof shall direct; and, in default of such return being made, the Secretary of the Treasury is hereby required to withhold the payment of any sums that may then be due, or which may thereafter become due, until a return shall be made as herein required.

Approved, December 12, 1820.

By the act of April 18, 1818, it was provided that one-sixth of the sums derived from the 3 per cent. of net proceeds of public land sales should "be exclusively bestowed on a college or university." From 1821 to 1869, Illinois received under this law $713,495.45.

The whole amount paid to the several States as percentages on the net proceeds of sales of public lands was $6,508,819.11. How much of this sum has been devoted to educational purposes has not yet been ascertained, but the States named below have received the amounts named, respectively, which (either by the terms of the grant by Congress or by State constitutional enactment) are to be applied for the benefit of public education:

Illinois, from 1821 to 1869	$713,495 45
Florida, from 1847 to 1872	28,098 07
Wisconsin, from 1850 to 1875	195,423 98
Iowa, from 1849 to 1874	630,627 38
Oregon, from 1866 to 1876	25,927 60
Kansas, from 1868 to 1876	53,626 15
Nebraska, from 1869 to 1876	113,591 90
Nevada, from 1872 to 1874	3,648 81
Making a total of	1,764,439 34

Besides this, the State of Arkansas has received from the same source $224,473.15, which sum, by a provision of the State constitution adopted in 1868, was to be devoted to education, but respecting which the later constitution of 1875 is silent. Missouri has in like manner received under two acts, dated respectively March 6, 1820, and February 28, 1859, the sum of $1,008,321.86. The constitution of Missouri adopted in 1875 establishes a school fund, one of the components of which is, in the words of a clause in section 6:

> Also any proceeds of the sales of public lands which may have been or may hereafter be paid over to this State (if Congress will consent to such appropriation).

Several of the States have devoted the net proceeds of the sales of swamp and saline lands to public education, but the amounts derived from these sources have not been generally ascertained.

In Ohio the amount realized from the sale of the saline grants and added to the common school fund was reported in 1850 at $41,024; in Indiana the State school fund realized from the same source $85,000.

The constitutions of the States of Louisiana, Mississippi (with some unimportant reservations), and Indiana contain provisions requiring that the net proceeds of the sales of swamp lands shall be used for the benefit of public education; and in several other States, as, for example, Missouri, Ohio, and Wisconsin, the same disposition has been made under general laws, without a specific constitutional enactment. The constitution of Alabama once contained this provision; the amendment of 1875 abrogated it. It appears from the report of the State superintendent of public instruction for 1875 that up to that date the sum of $27,340.31 had been received into the State treasury on account of sales of swamp land, but it does not appear that this amount or the income thereof had ever been used for the benefit of public education.

The amount of swamp lands granted and patented to each of the States, from the date of the first grant to June 30, 1876, is as follows:

	Acres
Ohio	25,64[illegible]
Indiana	1,256,63[illegible]
Illinois	1,453,61[illegible]
Missouri	3,185,47[illegible]
Alabama	392,71[illegible]
Mississippi	2,681,38[illegible]
Louisiana	8,468,96[illegible]
Michigan	5,864,66[illegible]
Arkansas	7,059,82[illegible]
Florida	10,735,40[illegible]
Wisconsin	3,059,57[illegible]
Iowa	1,166,917
California	1,308,295
Minnesota	1,143,153
Total	47,802,271

Official reports of the amounts received from sales of these lands and of the distribution of the proceeds are not easily accessible, and it is impracticable to present at this time any statement on these heads.

[1] Report of the Commissioner of the General Land Office, 1876.

DISTRIBUTION OF THE SURPLUS REVENUE.

In 1836 there was a large sum in the Treasury of the United States, chiefly derived from the sales of public lands, which was not needed for the current expenses of the General Government, and a law was approved on June 23 which provided for a distribution of the surplus among the twenty-five States of the Union on the basis of their respective representation in Congress. Afterward, the benefit of the act was extended to Michigan, which had just been admitted into the Union. This fund, amounting to $28,101,644.91, has since been held by the several States admitted into the Union prior to 1837, subject to call by the General Government. Several of them have devoted a part or the whole of the income realized from this fund to public education.

ALABAMA.

Of the fund referred to, Alabama received $669,086.79, which sum was deposited in the State Bank and its branches. By the first section of an act approved February 3, 1840, the bank and its branches were required to pay yearly $200,000 "for the purpose of aiding in the establishment of schools in the several townships of this State;" by the fifth section it was provided that no town should receive its proportion of this fund until it could be shown that a sum equal to one-third of the amount applied for had been raised by subscription; and the tenth section provided that "the annual interest of the surplus revenue deposited with this State shall be set apart to assist in the appropriation made by this act." This law was repealed January 21, 1843.

A law "to establish and maintain a system of free public schools in Alabama" was enacted February 15, 1854, the preamble to which reads as follows:

> That to carry into effect that provision of our State constitution which wisely declares that "schools and the means of education shall forever be encouraged in this State;" to realize the objects of the General Government in making grants and appropriations for the establishment of schools in each township; and to extend upon equal terms, to all the children of our State, the inestimable blessings of liberal instruction, the following system of free public schools is hereby established in this State and shall have the full force of law after the passage of this act.

The law was very elaborate. The first section of Article 1 contains provisions to create an educational fund, the first component of which was to consist of "the annual interest, at 8 per cent., on that portion of the surplus revenue of the United States deposited with this State under the act of Congress of the 23d of June, 1836."

This school law was amended in 1856 and again in 1860, but the provision respecting the interest on the surplus revenue fund was not disturbed.

The first application of the income of the surplus revenue fund for the support of schools (for 1855) was made December 1, 1854; the amount was $53,526.94. The total income of Alabama for educational purposes in that year was $237,515.39. Of this sum, $74,687.60 represented the

interest at 6 per cent. on $1,244,793.36, received up to that time from the sales of sixteenth section lands granted by the General Government for the support of schools; and $7,767.30, the interest at 8 per cent. on a fund of $97,091.21 derived from the sales of lands granted by the General Government in lieu of sixteenth sections which had been found to be valueless. That is to say, Alabama was able to pay $135,981.84, considerably more than one-half of her educational expenses in that year, from the income of a fund, granted directly and indirectly by the United States, which amounted to $1,310,971.37.

No reports of the school fund of Alabama from 1856 to 1864 have been accessible. The State superintendent of education in his report for 1865 remarks that no annual report had been issued from that office since October, 1859, "yet our system of public schools was kept up till the appointment of the provisional governor in July, 1865, although amidst the embarrassments incident to a state of fierce warfare."

At 8 per cent. interest the surplus revenue fund would have yielded $374,688.58 in the seven years from December 1, 1854, to December 1, 1860, and it may be inferred that that sum, as well as the income from the land funds in the same period, was distributed for the support of public schools according to law.

In his report for the fiscal year ending September 30, 1869, the auditor of Alabama presents the following statement of the educational funds of the State:

Amount December 1, 1860:	
Sixteenth section fund[1]	$1,399,343 83
Valueless sixteenth section fund	97,091 21
University fund	300,000 00
Total	1,796,435 04
Amount paid in from December 1, 1860, to December 1, 1867	310,794 12
Total	2,107,229 16
Amount received since December 1, 1867	209 75
Aggregate	2,107,438 91

The entire principal of these several funds, and of the surplus revenue fund, was used by the State in the war of the rebellion and is returned by the auditor in this report as "educational fund indebtedness." The close of the war found Alabama with crippled resources and an empty treasury. From a statement by the superintendent of public in-

[1] There appears to be an error of $100,000 in the printed figures of the auditor's report, which read $1,499,343.83. In the same report he states the sixteenth section fund at $1,710,347.70, which, diminished by $311,003.87, the amount received between December 1, 1860, and September 30, 1869, would leave $1,399,343.83 (instead of $1,499,343.83) as the capital of the fund December 1, 1860. This inference is strengthened by the fact that the auditor gives $2,107,438.91 as the aggregate of the several educational funds at the date of his report, whereas the figures as printed foot up $2,207,438.91.

struction,[1] we learn that the State made appropriations to pay the interest on the hypothetical school funds from 1866 to that time. There is some uncertainty respecting the years 1866 and 1867; all that is definitely known being that in 1868 the legislature passed an act appropriating $200,000 to pay the interest due the school fund prior to October 1 of that year. The amounts received were as follows:

Year.	Sixteenth section fund.	Valueless sixteenth section fund.	Surplus revenue fund.
1869	$136,812 59	$7,767 30	$53,526 94
1870	136,921 74	7,767 30	53,526 94
1871	115,268 85	6,472 75	44,605 78
1872	138,385 36	7,767 30	53,526 94
1873	138,828 46	7,767 30	53,526 94
1874	138,921 56	7,767 30	53,526 94
1875	139,216 02	7,767 30	53,526 94
Total	944,354 88	53,076 55	365,767 42

By an act of the general assembly of Alabama the interest on the several educational funds has been reduced from 8 to 4 per cent. a year, so that the income from the surplus revenue fund for 1876 was but $26,763.47. Adding the several amounts deduced for the period from the time the first apportionment was made in 1855 to 1876 inclusive (omitting the years 1861 to 1865), we have the sum of $767,219.47 derived from the income of the surplus revenue fund by the State of Alabama for the benefit of education. Although this statement might be modified somewhat if all official documents relating to the subject were accessible, it is believed that the amount would be increased rather than diminished.

CONNECTICUT.

Connecticut[2] received as her distributive share of the surplus revenue fund $764,670.60. A law was passed by the legislature of that State

[1] Annual report of John M. McKleroy, superintendent of public instruction, Alabama, for the year ending September 30, 1875, p. 65.

[2] In Connecticut in 1686, the legislature, deeming the chartered rights of the colony to be in danger, granted to the towns of Hartford and Windsor "those lands on the north of Woodbury and Mattatuck, and on the west of Farmington and Simsbury, to the Massachusetts line north, to run west to Housatonic or Stratford River; provided it be not, or part of it, formerly granted to any particular person to make a plantation or village," in order to "preserve them from the grasp of Sir William Andros." The object of the grant, as stated by Trumbull in his History of Connecticut, was that these towns should hold the lands for the governor and company (of the colony); accordingly, after the danger was passed the governor and company claimed them again. The towns refused to give them up, and after a long and bitter controversy a compromise was made in 1726, and the lands, comprising fourteen townships, were equally divided between the government of the colony and the two towns to which they were granted in 1686, each receiving seven townships. In May, 1733, a legislative committee appointed to view the lands which had reverted to the colony recommended that there be granted "all the moneys which shall arise from the sale of

December 29, 1836, which provided that this fund should be divided among the several towns on the basis of population; that one-half the income received therefrom should be devoted to the support of public schools; and that one-half might be used by the towns for general purposes, though a majority of the voters might also devote the whole or any portion of the last half to the support of schools.

This law was amended in 1855, and since that time the towns have been required to devote the entire income of the surplus revenue fund to the support of public schools.

Many of the towns appear to have availed themselves of the provision of the law of 1836, which authorized them to appropriate for the benefit of public schools, in addition to the one-half of the income set apart for that purpose, such a proportion of the remainder as a majority of the voters might determine. Frequent reference is made, in the reports on education from 1838 to 1846, to the amount of the income used for the benefit of schools, but the specific amount is not definitely stated. Ac-

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the seven townships to the towns in this colony which are now settled, to be divided to them in proportion to the list of polls and ratable estate in the year last past, to be secured and improved forever to the use of the schools kept in the several towns according to law, and that one of the fifty-three shares in each township be sequestered for the use of the school or schools in such town forever." In October, 1737, a committee to sell the lands was appointed in each county. As most of the treasurer's records prior to 1769 have disappeared, it is difficult if not impossible to ascertain how much was realized from the sales. It is known that one township, Norfolk, sold for £6824 10s., and another, Kent, for £1225 19s. The moneys received and distributed form a part of the local funds of the several towns.

In the revision of the statutes of Connecticut published in 1750, the fifth section of the "Act for appointing, encouraging, and supporting schools" provided that the local school funds created out of the avails of the sale of the seven western townships, according to the act of 1733, and distributed among the several towns and societies, are to remain a perpetual fund for the support of schools, and for any application of the interest to other purposes the principal was to be paid back into the treasury of the colony, and the town was to lose the benefit thereof afterwards.—(Report of the Superintendent of Common Schools in Connecticut, 1853, pp. 49–52.)

There is no means of ascertaining the amount of pecuniary benefit the schools have derived from the income of this permanent productive fund during nearly a century and a half.

When several of the States ceded the Northwest Territory to the General Government, Connecticut reserved 3,300,000 acres, and Virginia 3,700,000 acres, within the present limits of Ohio. Connecticut granted 500,000 acres of her reservation to citizens of that State whose property had been burned by the British in the revolutionary war, and sold the remainder for $1,200,000. Before this sale several efforts were made to enact that the proceeds should be devoted to the support of the ecclesiastical establishment, and in 1793 such a law was passed, the benefits of which were to be shared alike by all denominations. This law created great dissatisfaction and was repealed the following year, and in 1795 the act was passed devoting the entire proceeds to the creation of a common school fund. This fund was loaned at 6 per cent. per annum until 1872, when the rate of interest was increased to 7 per cent. The first dividend to the schools was made in March, 1799; the total amount of dividends from that time to December 31, 1876, was $7,316,083.91; and the capital of the fund was reported in the latter year to be $3,011,226.54, nearly double the original amount.

cording to the reports of the secretary of the board, and later of the State superintendent, it was about $33,000 a year. In his report dated May 7, 1839, Secretary Barnard remarked:

A second and considerable resource to meet the school expense is half the income of the "Town Deposite Fund," * * * and such portion of the remainder as the towns may appropriate to common schools. As far as heard from, about one-half of the remainder is devoted to this object, making an aggregate income of over $33,000.

The school revenue from this source for the year 1846 was reported at $33,441.66.

The total amount of surplus revenue deposited with the several towns was $763,661.83, the income of which is now, according to the report of the secretary of the State board of education for 1876, about $46,000 a year.

From a careful examination of the State reports on education and other documents, it appears that $1,474,790.64 had been realized from the income of this fund for the benefit of public education in Connecticut between 1837 and December 31, 1876, a sum nearly twice as great as the original deposit.

DELAWARE.

In the distribution of the surplus revenue fund Delaware received $286,751.49. In 1837 a part of this money was invested in bank stock, a part loaned to railroad companies, and $5,000 loaned to Sussex County, the two loans being at 6 per cent. A law passed February 22, 1837, provided that the income of these investments should be equally divided among the three counties of the State; the share of New Castle County to be paid to the trustee of the school fund for the support of public schools; the share of Kent County to be devoted to public schools or to such other purposes as the levy court and court of appeals of said county might determine, and one-third of the share of Sussex County to be used for public schools and two-thirds for the support of paupers. By a subsequent law (February 12, 1845), the entire income of the share belonging to Sussex County was to be used for education.

About this time the subject of public education was receiving the earnest attention of patriotic and thoughtful men in Delaware,[1] as well

[1] In this connection the following extract from the message of Governor Comeygs to the legislature, January 5, 1841, will be of interest. Referring to the subject of education, he said: "Without noticing the other arguments which might be adduced against such a system [*i. e.*, a system of "pauper" schools, entirely supported by public funds], I will remark that, in my opinion, no plan can be devised so well suited to this country as one supported partly by a State fund and partly by the aid of the people. The privileges of instruction should be alike open to all, and every white child in the community, let his condition be what it may, should be permitted to partake of the same common benefit, enjoy the same advantages, and aspire to the same distinction. The mental culture of the youth, like every other matter of public utility, should properly be the business of the State, and not a matter of individual concernment; and in a free republic it should be regarded as an *internal* improvement, without which all others are comparatively unimportant."

as in other parts of the Union, and it is to their efforts that the cause of education in that State is indebted for the aid received from the income of the surplus revenue fund.

The exact amount of income derived from the surplus revenue fund for the benefit of public schools in Delaware cannot, in the absence of necessary official returns, be determined. In 1850 the State treasurer reported $15,947.62 received on this account, and the same amount as paid to the trustee of the school fund; in 1852 the amount derived from the same source was $14,147.62, and in 1869 it was $15,139.50. These reports indicate an average income of about $15,000 a year. It is probably safe to say that about $585,000 were realized by Delaware from the income of the surplus revenue fund from 1837 to December 31, 1876, for the benefit of public schools. Under the Delaware laws the revenues of the school fund are applied to the support of schools for white children exclusively.

GEORGIA.

Although the Legislature of Georgia protested against the right of the General Government to divide the surplus revenue among the several States, that State nevertheless accepted her share, amounting to $1,051,422.09, which was deposited in the Central Bank of Georgia, a State institution, which was authorized to loan it to the branch banks and to citizens of the State, the income to be applied as the legislature might direct.[1] By a law enacted December 28, 1838, it was provided "That from and after the first day of January, 1839, the funds of this State heretofore known as the academic and poor school funds be, and the same are hereby, consolidated, and, together with the interest on one-third part of the surplus revenue derived to this State from the United States and heretofore set apart for that purpose, shall compose and constitute a general fund for common schools for the State of Georgia."[2]

By a law enacted December 10, 1840, the name common school fund was again changed to poor school fund, and its benefits could be shared only by those children between the ages of eight and sixteen years whose poverty was certified to by the justices of the peace of the several districts.[3] In 1843 "An act to provide for the education of the poor" was passed. By this act 1,733 shares of stock of the Bank of Georgia, 890 shares of stock of the Bank of Augusta, "and all the available assets of the Central Bank, after the payment of its debts," were set apart as a permanent educational fund.[4] In an act dated January 22, 1852, the educational fund was stated at 1,833 shares of Bank of Georgia stock, 890 shares of Bank of Augusta stock, 186 shares of stock of Georgia Railroad and Banking Company (representing altogether a par value of $290,900), the net available assets of the Central Bank, and whatever

[1] Georgia Session Laws, 1836, p. 262.
[2] Session Laws, 1838, p. 257, *seq.*
[3] Session Laws, 1840, pp. 61–65.
[4] Session Laws, 1843, pp. 43, 44.

balance might remain of $30,000 appropriated to hold a State convention.[1] In 1858 the sum of $100,000 a year was appropriated from the earnings of the Western and Atlantic Railroad for the benefit of schools, and it was provided that a sinking fund should be created to redeem certain bonds of the State, and that in lieu thereof 6 per cent. bonds should be issued which should form a permanent educational fund, the State pledging itself to pay the interest annually for the benefit of education.[2] In accordance with the provisions of this law, bonds to the amount of $350,000 were issued[3] in the years 1859 and 1860. It will be observed that this amount corresponds very nearly with the one-third of the surplus revenue set apart as an educational fund by the law of 1838, and it may be regarded as substantially the same fund through all its mutations.

In the absence of official reports on the finances of Georgia (which, until 1840, were bound up with the session laws of each year, but have since been discontinued), it is impossible to state, even approximately, the amount realized for the benefit of education in that State, from the income of the surplus revenue fund. According to the comptroller general's report for 1840, the amount appropriated for education under the act of 1838 to that time was $100,646.89. From this should be deducted the income of the academic and poor school funds, which together yielded $21,509.39 in 1839, according to the report of the State treasurer for that year, and about the same amount in 1840. This would leave $57,632.11 as the income of the surplus revenue for those two years; and by referring again to the report of the comptroller general for 1840, we find that $57,527.64 were actually received from the Central Bank on account of the educational fund in that period. We have no data by which to determine whether this annual income of about $28,763 a year was realized from 1841 to 1859 or not, but it is not unfair, perhaps, to assume that it was; if so, we have a total amount of about $604,040 received from the income of the surplus revenue fund from 1839 to 1859 inclusive, to which should be added the interest at 6 per cent. on $150,000 in bonds, issued in November, 1859, which appears to have been paid when due, November 15, 1860, making $613,040.

No interest has been paid on the $350,000 in State bonds belonging to the educational fund since 1860.

ILLINOIS.

Of the $477,919.14 surplus revenue fund received by Illinois, the sum of $335,592.32 was at once added to the common school fund, on which 6 per cent. interest is paid by the State. The amount of interest realized from January 29, 1837, when the first amount ($16,979.56) devoted

[1] Session Laws, 1851-'52, p. 1, *seq.*

[2] Session Laws, 1858, pp. 49-51.

[3] Report of the State School Commissioner, 1871, p. 13.

to education was received, to November 30, 1877, was $818,794. The greater part of this has been used for the payment of teachers, but a portion is comprised in the county school fund, which amounted to $348,285.75 in 1876.

INDIANA.

Indiana received as her share of the surplus revenue fund $860,254.44, of which sum she set apart $573,502.96 for public school purposes. Of this sum $567,126.16 were at once distributed among the counties, which were authorized to loan the same, on real estate security, at 7 per cent. interest. Subsequently, the remainder, $6,376.80, was also distributed. In 1873 the rate of interest on loans from this fund was advanced to 8 per cent. This applied to all loans made after March 8 of that year; and in his report, dated November 1, 1874, the State superintendent estimated that two-thirds of the whole amount was at that time bearing interest at the rate of 8 per cent. a year. The data accessible do not admit of an absolutely correct calculation, but reckoning interest on $567,126.16 from June 30, 1837, to June 30, 1875, at 7 per cent., and on $573,502.96 from June 30, 1875, to June 30, 1877, at 8 per cent., we have the sum of $1,640,014.88 as representing the aid received for public schools in Indiana from the income of the surplus revenue fund. This is rather below than above the real amount. The income of that portion of the surplus revenue fund set apart for educational purposes in Indiana cannot be used for any other purpose without a change in the State constitution, and it may therefore be regarded as permanent.

KENTUCKY.

In the distribution of the surplus revenue fund Kentucky received $1,433,757.39, and, February 23, 1837, passed an act setting apart $1,000,000 thereof for a school fund; but as three only of the four instalments provided for by the act of Congress of June 23, 1836, were paid to the States, the Kentucky legislature modified the law above mentioned the following year, reducing the grant for a school fund to $850,000, on which the State guaranteed 5 per cent. interest. No general system of public schools was established for several years, and the interest as it accumulated was invested from time to time in State bonds bearing 6 per cent. interest, except $65,847.36 paid in 1839 for 735 shares of stock representing a par value of $73,500, in the Bank of Kentucky, the (estimated) dividends on which were $5,880 a year.

According to the report of the superintendent of public instruction for 1842, the public school fund at that date was constituted as follows:

State bonds bearing 5 per cent. interest	$850,000
State bonds bearing 6 per cent. interest	67,500
Bank stock	73,500
Total	991,000

Interest continued to accumulate on the bonds until 1848, when,

through the strenuous efforts of Hon. Robert J. Breckinridge, who became superintendent of public instruction in 1847, the arrearages were funded in a 5 per cent. State bond for $308,268.42, dated December 20, 1848. The expenses of the school system for 1849 amounted to only $16,995.69, and the balance due the school fund on account of interest for 1848, together with the income for 1849, amounting to $101,001.49, was funded in 1850 at 5 per cent. The amount of the school fund (all derived from the surplus revenue) December 31, 1850, was $1,400,270.01; the income from interest on State bonds was $67,013.50, and from dividends on bank stock (estimated) $6,000, making a total of $73,013.50 a year. The total expense of the school system for three years (1847 to 1849) was $88,958.04, of which $85,212.97 were paid for the support of the schools, and but $3,745.07 for all the expenses of administration, including salaries, travelling expenses, printing, postage, &c. The income since 1850 has amounted to about $73,000 a year, and the total income from 1851 to 1877 was about $1,241,000.

LOUISIANA.

Louisiana received $637,225.51 as her quota of the surplus revenue fund. What part of it was set apart for the support of schools or whether any thereof was at first distributed in any proportion for this purpose I have not had time to ascertain. The first mention of the fund that I have discovered is in the school law of 1853, section 3 of which provides that the income of the United States trust fund shall be considered a part of the income of the current school fund. On this latter fund the State seems to have paid interest at the rate of 6 per cent. for the support of schools. In 1853 and in the four years following this interest amounted to $28,795.14 annually. The same amount was probably expended in 1857, in 1858, and in 1859.

I have not investigated whether the school fund of Louisiana was or was not expended for other purposes during the years 1861 to 1865; if so expended, the State either must have replaced it for its original uses or guaranteed the old income to the schools, because the school laws of 1867 mention the "free school fund" once more and state that the annual income therefrom was $28,795.14, as before.

I am not satisfied with this meagre account of the surplus revenues loaned to Louisiana, but must plead want of time for this lack of knowledge.

MAINE.

In the distribution of the surplus revenue fund Maine received $955,838.25, and divided it, except $6,000, among the several cities, towns, and plantations of the State. A law enacted March 8, 1837, provided that "any city, town, or organized plantation is hereby authorized to appropriate its portion of the surplus revenue or any part thereof for the same purposes that they have a right to [appropriate] any money in the treasury from taxation; also to loan the same in such manner as they deem expedient on receiving safe and ample security therefor."

A number of the towns bestowed the surplus revenue fund or its income on public schools, but as no returns of the yearly distribution of this fund are required of the towns it is impossible to ascertain the total amount used for education. Partial returns for the years 1837 to 1839 show that $659,598 were thus expended.

At the time the surplus revenue was divided among the towns of Maine, the boundary between that State and New Brunswick was in dispute, and an attempt to take a census of the inhabitants of the "Madawaska townships," comprising the northeastern portion of the State and of the present county of Aroostook, was defeated by the arrest by the New Brunswick authorities of the agent appointed to make the enumeration. The State treasurer, estimating the population of those townships (which were then unorganized), held back their proportion ($6,000) in the distribution. It remained in the State treasury until 1861, when $5,000 of it were set apart as a separate school fund, the yearly income of which, at 6 per cent., is allotted to those towns for the support of schools. The amount thus realized from the enactment of the law to and including the year 1877 is about $5,100.

MARYLAND.

Maryland received $955,838.25 in the distribution of the surplus revenue, and, after deducting $274,451 to pay interest on the public debt of the State, enacted that the annual interest, at 5 per cent. a year on the remainder ($681,387.25), should be devoted to "the support and encouragement of common school education." In 1840 it was provided that $1,000 of this income (the whole amount of which is $34,069.36 a year) should be devoted to the education of indigent blind persons.

It appears, therefore, that Maryland had realized from the income of her share of the surplus revenue, from June 30, 1837, to June 30, 1877, about $1,362,774.40 for the benefit of public education.

MASSACHUSETTS.

Massachusetts[1] received as her proportion of this fund the sum of

[1] Governor Edward Everett, in his address to the Massachusetts Legislature, January 12, 1837, called attention to the surplus revenue fund accruing to Massachusetts. The State, by an act dated April 4, 1836, had subscribed $1,000,000 to the Western Railroad. Governor Everett said: "Among the modes of disposing of the Commonwealth's share of the surplus, it will deserve consideration whether a portion of it would not be wisely applied to redeem the faith of the State pledged by this subscription.

* * * * * * *

"There are other enterprises of improvement and public objects of high interest which will doubtless receive due consideration; a discussion of which, on the present occasion, might seem uncalled for. I will only ask permission to observe that I am sure the highest of them all will not be forgotten—the intellectual improvement of the people. Massachusetts owes what she is mainly to the provision made by our fathers, from the earliest days and out of slender means, for the education of her youth. The constitution has devoted one whole chapter to this subject, and has made it the ex-

$1,338,173.58, two-thirds of which (except $2,500) were distributed among the towns, which were authorized to "apply the money so deposited with them, or the interest upon the same, to those public objects of expenditure for which they may now lawfully raise and appropriate money, and to no other purpose."[1]

Many of the towns bestowed the surplus revenue fund or its income on the public schools, but, the records of town grants being inaccessible, it is impossible to show the entire amount expended in that way. A careful examination of the annual reports of the State board of education from 1838 to 1877 shows that the total amount in that period was about $280,440; but this is doubtless considerably under the real sum.

The $2,500 mentioned as reserved from the distribution to towns was constituted an Indian school fund, and the income at 6 per cent. has been regularly expended for the support of Indian schools. It has amounted altogether to $6,000.

The cause of public education in Massachusetts has, therefore, been aided pecuniarily to the amount of at least $286,440 from the interest of a portion of this grant by the General Government.

MISSOURI.

The share of Missouri in the distribution of the surplus revenue fund was $382,335.30, and the whole amount was set apart February 6, 1837, to constitute, with the proceeds of the saline grants, a permanent school fund.[2]

The fund was invested in stock of the Bank of Missouri, and for many years the income was variable, averaging for the first eleven years about 5¼ per cent. a year. The fund is now invested in State bonds bearing 6 per cent. interest.

Allowing interest at an average rate of 5¼ per cent. from June 30, 1837, to June 30, 1872, and at 6 per cent. from June 30, 1872, to June 30, 1877, we find that $842,193.48 have been realized by Missouri from her share of the surplus revenue fund for the benefit of public schools.

As the surplus revenue fund of Missouri is made a part of the public school fund by constitutional provisions, it is unlikely to be diverted to any other object.

NEW HAMPSHIRE.

This State received $669,086.79 in the distribution of the surplus revenue. The money, except that inuring to communities not then incorporated into towns, was divided among the several towns as in Maine and Massachusetts, and with the same privilege of devoting the whole

press duty of all legislatures to foster the colleges and schools. I own I can imagine no worthier use which can be made of a portion of this fund than that of rendering education better, cheaper, and, consequently, more accessible to the mass of the community."

[1] Massachusetts Session Laws, 1837, chap. 85.

[2] Missouri Session Laws, 1837, p. 137.

or a part to the support of public schools. The amount reserved by the State on account of unincorporated places was paid to them, to be used for the support of public schools. The exact amount of the surplus revenue fund used for educational purposes by the towns cannot be determined, but the basis for a fairly correct approximation has been found. From 1856 to 1872, the amount of this fund used for schools each year was separately reported by each town which made a return of its educational expenditures. The entire sum thus reported was $28,844.95, an average of $1,802.81 each year. Before and after the period named no separate report of this fund was made, but it is probable that the sum expended each year for schools did not materially vary from the average above given; so that the expenditure from this source from June, 1837, to June, 1872, would amount to $73,715.21.

NEW JERSEY.

New Jersey received $764,070.60 of the surplus revenue, and divided the money among the several counties of the State, and it was by them loaned on proper security. The yearly interest, divided among the towns of each county, may be used by them in current expenditures for any purpose for which they are authorized by law to expend other town funds. It was undoubtedly expected that the income of these county funds would be generally applied to the support of public schools; and, though the reports of the State superintendent of education prior to the year 1852 do not classify the funds expended by the towns in addition to the amount received from the State, there is sufficient evidence that a considerable portion of them was derived from the surplus revenue each year from 1837 to the year mentioned. In the year 1852 the State superintendent, in enumerating the town expenditures for support of schools, included an item of $23,322.66 "from other sources, being chiefly the interest on surplus revenue." A similar item, the amount varying from about $24,000 to about $50,000, is included in the report for each year from that time to 1867, when for the first time the amount from surplus revenue is separately stated. It was $26,531.54 for that year. From August 31, 1866, to August 31, 1877, it amounted to $349,313.18, being an average of $31,755.74 a year. Estimating the yearly expenditure from this source for education for the years 1853 to 1877, both inclusive, on this basis, we have $793,894.50. It is highly probable that the yearly average from 1837 to 1852 was more than one-half as large as between the latter date and 1877, but estimating it at $15,000 a year we have, to add to the above, $225,000, making a total of $1,018,894.50 realized from the income of the surplus revenue for the benefit of the public schools of New Jersey.[1]

UNSYSTEMATIC CHARACTER OF THE AID AFFORDED EDUCATION.

In the distribution of the surplus in the United States Treasury it

[1] The pressure of other work has prevented the completion of this inquiry with reference to the other States which participated in the benefit of the distribution of surplus revenue.

will be observed that there was no condition that it should be used for the promotion of education, when received by the respective States. Moreover, in distributing the public domain, as already noticed, no one can fail to observe how unequal was the distribution as respects population. On this point there was a constant struggle.

The State of Maryland made a special effort to secure equalization of grant. Other States criticised her action. The struggle manifested itself in Congress in various forms. Many propositions were made by leading men; resolutions were offered and referred to committees.

In the Nineteenth Congress a report was made by Mr. Strong, from the Committee on Public Lands, February 24, 1826, on the resolution "to inquire into the expediency of appropriating a portion of the net annual proceeds of the sales and entries of the public lands exclusively for the support of common schools, and of apportioning the same among the several States in proportion to the representation of each in the House of Representatives." The committee observed:

The resolution under consideration proposes to appropriate a portion of the proceeds of the public lands to a new and specific object: to convert it into a permanent fund for the sole use and support of common schools in the several States, and to divide this fund among the several States in proportion to the representation of each in this House. * * * A township of land has been given to the "nation's guest." Large portions of land have from time to time been given to other individuals and to public institutions. Now, if it be good faith to give away the lands from which the revenue pledged to the sinking fund is derived, it cannot be bad faith to appropriate a portion, at least, of their proceeds for the support of common schools.

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Unless children are taught how to govern themselves and how to be governed by law, they will rarely make good citizens. It may be objected that the Constitution does not give to Congress the power to appropriate the proceeds of these lands for the purposes of education. The question is not whether Congress can superintend and control the private schools in the several States, but whether Congress can appropriate the proceeds of these lands for the use and support of those private schools, to be applied by and under the exclusive authority of the several States.

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Common schools are the nurseries of youth; they are the most universal, as they are the most effectual, means of opening the mind, of giving reason the mastery, and of fixing in habits of sober industry the rising generations of men. Can, then, a portion of the proceeds of the national domain be expended in any way which will more directly or forcibly come home to the wants and wishes, the business and bosoms, of the people?

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In further discussing this measure, some of its obvious advantages must not be overlooked. It will give some aid to all in the acquisition of learning. It will give efficient aid to the destitute, without which aid they must be left uneducated and in ignorance. It will diffuse, in the quickest and cheapest way, the greatest amount of useful knowledge among the people. It will tend as much as anything else to make young men and old respectable, efficient, good citizens. These considerations, it would seem, cannot fail to awaken the attention of the State legislatures. They surely are not now to learn for the first time that the success of good government, the independ-

ence of the States, and the permanency of their political institutions are vitally connected with a well educated yeomanry. Besides, the fact of there being a permanent fund, the interest of which is to be applied to the glorious purpose of training up the young mind in the way of knowledge and morals, will, in some degree at least, excite in these guardians of State rights a just emulation in promoting, to every practicable end, the great cause of common education.

It is a singular fact in the history of our species that nowhere has common education made any considerable progress among the people without the efficient aid and protection of the government. There is, generally, a prevailing indifference among the illiterate to the cultivation of the mind; were it not so, the poor man, though learned, can rarely instruct his children, because his time is necessarily occupied in earning their bread; and the ignorant man, though rich, cannot do it, because he is himself untaught.

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Are not, then, the National and State Legislatures under the strongest obligations to the people of this country to provide and apply the means whereby every child may have the opportunity, in these nurseries of the mind, of acquiring some knowledge of letters and of the various duties he owes to his country and his God?

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Common education can be estimated only in proportion as its necessities and advantages are felt; and as the same number of children as there are dollars annually distributed from this fund may receive, with proper management, about six months' common schooling, will not the people, witnessing these moral and intellectual improvements, look with intenser interest to their respective State Legislatures as the immediate dispensers of these benefits? And will not the Legislature of each State, viewing the increase of common schools and the augmented amount of schooling, and perceiving their benign and salutary effects upon the mind, morals, and habits of the rising generation, look with increased steadiness to the Federal head whence these blessings flow?

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The committee are not unaware that there is, in this pecuniary connection, a seeming tendency to produce an undue dependence of the States upon the Federal Government. They are persuaded, however, that a little examination will dissipate this cause of alarm. The strength of the tie and the degree of the dependence, it is fair to presume, will always be in exact proportion to the actual benefits resulting from the proposed fund. If the fund be not beneficial, it can have no influence, good or bad. Suppose great benefits to flow from it, what are they? Shall we hereafter look for them in the increased ignorance and subdued spirits of our fellow citizens, or shall we find and feel them everywhere in the rapid progress of education and in the improvement of mind and morals? If it be true, as it unquestionably is, that the safety and success of our political institutions depend absolutely upon the intelligence and virtue of the people, and if it be true, also, that the direct effect of the proposed fund will be to increase that intelligence and virtue, then it is equally true that there can be no undue dependence of the people or the States upon the Federal Government. As these benefits increase, so also will increase the ability and means of detecting and resisting the encroachments of power. Although each part of our political system is dependent upon the other, yet there is a wide difference between that dependence which springs from mean or guilty motives and that which has for its end the union and strength, the happiness and glory, of a generous people. And whatever other men may be disposed to do, that portion of the people to whom our governments, whether Federal or State, in prosperity or adversity, must look for protection and defence, if intelligent and virtuous, will never do slavish homage or tamely surrender their liberties to any earthly power.

The proposed measure, the committee are also induced to believe, will have a most salutary effect in respect to the public domain itself and all the great interests con-

nected with it. There is much apathy in the public mind in regard to the value and importance of these lands. Strong indications are manifested to reduce their price, and to bring the whole into market as speedily as practicable, and without any reference to the existing demand for them. Should this happen, the consequence will be to depreciate the fair average value of land, whether cultivated or uncultivated, by putting more into the market than could be occupied perhaps in fifty or an hundred years to come; to fling the best of them into the hands of moneyed men and speculators by their cheapness and the prospect of gain, and to retard cultivation and population by the high prices at which they would be held. The committee think the proposed measure will produce a counteracting interest; an interest which, while it guards the public domain from sudden depreciation on the one hand and from speculation on the other, will induce a more rapid and a sounder population.

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The foundation of our political institutions, it is well known, rests in the will of the people, and the safety of the whole superstructure, its temple and altar, daily and hourly depends upon the discreet exercise of that will. How, then, is this will to be corrected, chastened, subdued? By education—that education the first rudiments of which can be acquired only in common schools. How are the millions of American citizens to be enabled to compare their government and institutions with those of other countries; to estimate the civil and political privileges and blessings they enjoy; and to decide, understandingly, whether they ought or ought not to protect and defend the Constitution under which they live?—by education. Has the Legislature of each State provided all the means that are wanted to this end? Is there nothing more to be done? Are all sufficiently educated? There are some wealthy men and many a poor man in our land whose family and fireside have never yet been cheered by the light and benefits of common education. Is there, then, no necessity for the proposed measure? Its advantages must be admitted. That there are heads and hearts among us waiting for instruction, cultivation, improvement, will not be denied; and that the means are still wanted (through the inability or indifference of individuals and of the States) to accomplish this great purpose cannot be doubted. Why then delay?

Again, in the Twenty-first Congress, Mr. Hunt, from the select committee appointed to consider the expediency of appropriating the net proceeds of the sales of public lands among the several States and Territories for the purposes of education, made a report, from which I cull the following:

The domain thus vested in the United States was upon no contingency or event to revert back to the States making the cessions, or to become the separate property of individual States. It was expressly made a *common fund*, and a trust and authority were reposed in Congress for two general purposes.

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The numerous donations of public land for the purpose of education, and the appropriations of the road and canal fund to the new States, being a part of the proceeds of sales, have long been considered by different administrations as the exercise of power authorized by the Constitution. If Congress can make direct grants of land to literary institutions or to individual States, the power of granting the money arising from the sales would seem to be necessarily implied. The present resolution calls for no power of Congress which has not always been exercised, neither does it involve the right and policy of raising money by taxation and transmitting the same to the States, but merely requires the equitable distribution of the proceeds of a common fund already belonging to the people. The Constitution, which *authorizes Congress to dispose of the territory belonging to the United States*, gives an express power over the public domain, and implies the power to sell and to receive the purchase money, and

the consequent power to grant and appropriate the same for all purposes authorized by the Constitution.

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In relation to the application of the money arising from the public lands, the committee are well satisfied that if it be limited to any single object, the permanent and general diffusion of intelligence is so important not only to the prosperity and honor of the country but essential to the very existence and preservation of our republican institutions, that it presents the first and strongest claim to the attention and patronage of government. The promotion of other objects, however, is of so great and general importance that it is worthy of consideration whether some latitude of discretion should not be intrusted to the legislatures of the different States to select objects interesting to themselves, to which their portion of the revenue might, in whole or in part, be applied. As the resolution is limited to education only, the committee recommend the accompanying bill for that purpose.

In February, 1838, Mr. William Cost Johnson, of Maryland, presented the following resolutions in the House of Representatives:

Resolved, That each of the United States has an equal right to participate in the benefits of the public lands, the common property of the nation.

Resolved, That each of the States in whose favor Congress has not made appropriations of land for the purposes of education is entitled to such appropriations as will correspond, in a just proportion, with those heretofore made in favor of other States.

Resolved, That the committee of —— report a bill making an increased appropriation of the public lands, the property of the United States, yet unappropriated, to all the States and Territories of the Union, for the purposes of free schools, academies, and the promotion and diffusion of education in every part of the United States.

In support of these resolutions, Mr. Johnson said:

It must be apparent to all that, as a common property, designed in the articles of cession to be granted for the benefit of all the States, and not for the partial benefit of a part of the States, any mode of distribution or appropriation which is partial in its tendency operates an injustice to the rest, in direct violation both of the language and intention of the acts of cession. So far as they have been or may be appropriated for objects of national defence, so far as they have been sold and the proceeds paid into the Treasury, the Government has acted faithfully; but, so far as they have been applied to State and not national purposes, so far as they have been granted to particular States for specific purposes, when they might have been granted for the like purposes to all the States, the Government has acted in direct violation of the very language and spirit of the compacts.

The Government has acted in its unmeasured liberality toward the Western States with great injustice to the old States, an injustice which is doubly severe upon those old States whose limits are comparatively small and whose means of revenue are not very great, in giving immense bounties of the public domain for specific, and local, and State purposes.

The Government has given to the Western States one thirty-sixth part of the public lands for the purposes of education in those States and Territories in which the lands are situated, and thus has been carved out of the general property of the whole nation, which Congress solemnly pledged itself to appropriate only for the benefit of all, this vast amount for the local and exclusive benefit of a part. Have not the old States an equal—I might say truly a superior—claim to a like proportionate appropriation of the public property for the same purpose? Is not education equally as important in one region of the nation as it is in another? And is it not as expensive in the old as it is in the new States? Can this Government, I will ask, consider itself as acting in honest and just faith as long as it omits to make similar appropriations of the public lands to the old States for purposes of education? The appropriations have

been made for State, not national, purposes; they were of a character that might have been made to all the States. Is it in good faith to restrict them to a part only?

The number of acres which the Government has given to the new States east of the Mississippi amounts to 7,909,903. If the same policy be pursued with the territory west of the Mississippi (as it ought to be, provided it be extended to the old States also), the number of acres which will be appropriated in that region will be 6,666,666;[1] making an aggregate of 14,576,569 acres, which, at $2 per acre, will make the enormous amount of $29,153,138 given exclusively to a particular section of the country from the common property of the nation.

This calculation is placing the land at the low price of $2 per acre (much of it has sold for $10, and intrinsically, on an average, it is worth, I believe, more than five), and Seybert has shown that before the reduction of the Government price it averaged more than $2 per acre; which will make, when the western country shall have been settled, land worth, perhaps, seventy or eighty millions of dollars of the general property of the nation which Congress will have given for local State benefits.

In addition to this vast amount of land which has been given to the Western States for purposes of education, they have received two and a half per cent. on the sales of the public lands, and large grants for purposes of internal improvements. The amount of money which the General Government has expended in the purchase and management of the public lands, including interest thereon, is upwards of $49,000,000. In 1831 it was $48,077,551, including interest. This amount has been chiefly paid by the old States, and much of their wealth has been drawn from them, while the amount of money which had been paid into the Treasury from the sales of the public lands up to 1831 is but $37,272,713; therefore the National Treasury had not, at that time, been reimbursed, by including interest, by $10,804,838. And yet this Congress is gravely asked—by whom? not the people, but by a few honorable members—to reduce the price of the western lands.

Nor should Congress refuse to grant to the old States their fair distributive share of the public lands for the purpose of education; and, if they are true to themselves, they will insist upon the grant. Maryland contains 8,960,000 acres; at the ratio of one thirty-sixth part, she would be entitled to 298,665 acres, which, at $2 per acre, would amount to the sum of $597,330, as a perpetual fund for common schools and academies. United with her present school fund, this amount would enable her to diffuse more generally the benefits of education throughout the entire State. By the adoption of such a policy, the like benefits would result to every State in the Union. Pennsylvania would be entitled to 995,732 acres, and all the rest of the old States to an amount proportionate to their limits. But I shall allude to this subject more particularly in another part of my remarks. In 1821 the Legislature of Maryland passed the following resolutions:

Resolved by the General Assembly of Maryland, That each of the United States has an equal right to participate in the benefit of the public lands, the common property of the Union.

Resolved, That the States in whose favor Congress have not made appropriations of land for the purposes of education are entitled to such appropriations as will correspond, in a just proportion, with those heretofore made in favor of the other States.

Another resolution was passed inviting the attention of the Legislatures of the several States to the subject, and also their representatives in Congress.

These resolutions were accompanied by a report from Mr. Maxcy to the senate of Maryland, which, for clear, irresistible reasoning and enlightened policy, is second to no report that has ever been made on the subject. If the report of Mr. Clay (I mean the American statesman) on the subject of the western lands should be decided more

[1] This is predicated upon the calculation that Louisiana contains, according to Mr. Seybert's estimate, 200,000,000 acres; but it contains 750,000,000 by Senator Clay's estimate, which would more than double the amount.

able, it would be for the reason that Plato gave why one of Demosthenes's orations was better than the rest, "because it was *the longest.*" Most of the States gave favorable responses to the resolutions of Maryland, and the subject was brought before Congress. Congress delayed action upon the ground that to grant lands to the old States might, for the time, retard the payment of the national debt, and derange, in some degree, the sinking fund system; but I will, before I conclude, allude more particularly to the propositions and reports made in relation to the public lands as a fund for education. That debt has been paid off; the nation is free from debt; so that argument cannot now be used. And Congress should now pay a debt of gratitude—no, sir, not a debt of gratitude, but a debt of justice—to the old States. Justice is all that they ask, and it is what they have a right to require.

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On this part of the subject I shall offer one other extract, and that is from the proceedings of the Legislature of Ohio; and I cannot withhold my admiration of the sound and firm grounds which it has taken on this subject. A State which but forty years ago was a vast wilderness, by the bounty of the General Government and its soil, with an enterprising population, is now the third State in the Union in population and power, and already

Leads
New colonies forth, that towards the western seas
Spread like rapid flame among the autumnal trees.

The resolutions were passed on the 2d February, 1838, and the part which I shall read is as follows:

We do, therefore, declare that the public lands of the United States are the property of the whole Union, held in trust for the States; that this trust can only be answered by giving to all the States the proper proceeds of their value; that we protest against any change in the long established system of managing the national estate, as it was devised by the Congress of the Revolution and sustained by every administration of the Government till the present; and we maintain that the lands shall be sold at their proper price for the benefit of all the people of the States, not squandered and confiscated for the benefit of a few; and we also maintain that the six hundred millions of acres yet unsold are the great inheritance of the future people of these States, and that any faithless consent of this generation to abandon that inheritance to the Federal Government, to be sold piecemeal and the money used as common revenue, would be to make that Government more powerful and to foster extravagance in public expenditure, while it would lessen the rights of the States *and deprive them of this unfailing means of advancing the condition of their people for centuries to come.*

For the reputation of the new States I could wish that such sentiments were more generally prevalent among them. And I may as well say at this time that my remarks in relation to appropriations of land made by the General Government to the Western States for the promotion of education apply but in a very limited degree to Kentucky and Tennessee. Kentucky has received a small portion to aid some of her eleemosynary institutions, and Tennessee has received about two hundred thousand acres for academies and colleges.

The views taken by the Legislature of Ohio are worthy of that enterprising and enlightened State, and commend themselves to the emulation of the older, less fortunate, and less prosperous States of the Union; they show practical intelligence and sagacious wisdom; they look beyond the present and point to the distant future. Instead of treating and using the vast public domain as a fund for political gambling and political bribery, instead of throwing it out as a lure to the ambitious or the avaricious, as is too much the case in the present day, how much better would it be for the present and future generations if it were set apart as a sacred fund, to be used for educational purposes, and no other; not to be touched for any other purpose in either peace or war. If the whole proceeds were set apart for that exclusive purpose, with the privilege of the States to invest one-half of their distributive shares in works of internal improvement, first guaranteeing to the Government, as the agent of all (for I would have the present land system of the General Government continued), the legal interest of the State on the amount invested in improvements, to be faithfully paid into the school

fund of the State, this warfare between the State and General Governments would cease, this conflict between different sections of the Union would end, and a policy as enduring as our institutions would be established, and our institutions would be made enduring by this very policy.

"A despotism," says Montesquieu, "is supported by fear; a republic, by virtue." Our institutions can only be supported by the wide diffusion of moral education among all conditions of the people. Those who limit their views to the present and close their eyes to the future are unsafe agents of the people. The lifetime of an individual is but a day in the history of a nation.

Congress should legislate as if this nation and its free institutions were to be lasting; it is only by viewing them so that they will be made perpetual; to look not alone at ourselves, selfish as human nature has formed us, but, in the language of Bulwer, to look at the eternal people, the teeming millions who are to crowd these States, to draw their support from its soil, and who must sink into ignorance, into anarchy, or into despotism, if they have not the means and facilities of early and progressive education.

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If we contrast the condition of education in most of the nations of Europe with the limited systems in this nation, we will be mortified to find how far we are behind the former. It is true that Massachusetts, Connecticut, New York, Ohio, and one or two other States have adopted a liberal and general system of public schools; but even in those States there is much room for improvement; and although in Connecticut one-third of the population of 275,000 attend the free schools, still the foundations of education should be extended deeper and wider. In most of the other States the system of education is most culpably deficient. Although the system of education has been greatly improved since, yet by a report made seven or eight years ago it was stated that "this country contains more than four millions of children who ought to be under the influence of common schools. But by a recent estimate it appears that more than a million of children are growing up in the United States in ignorance and without the means of education; of these, 250,000 are said to be in Pennsylvania. An estimate made in 1828 showed that, of the children of New Jersey, 11,743 were entirely destitute of instruction, and 15,000 adults unable to read."

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As in State governments, so in the national, prejudices may be created; timid apprehensions may alarm; worse considerations than either may influence individuals in opposing a measure to appropriate the public domain for the diffusion of education among the States; but when such a policy shall, and I believe and hope will, prevail, the individual, if it should be possible that one such could be found in Congress, who would attempt to divert that fund, once set apart, from its munificent purpose, would be regarded as a more barbarous heathen than he who would in other times have wildly rushed into the sanctuary of the solemn temples of the gods and extinguished their vestal lights.

By the report of the committee appointed by the Legislature of Georgia, "of 83,000 children who ought to be in school, but 25,000 have the advantage of any education whatever."

Thus Georgia, the mother of two powerful and wealthy States, presents the sad picture of allowing 58,000 children to grow up within her limits in the most cruel and profound ignorance; a State which reserved in her articles of cession her just proportion of the public lands. When was the voice of that State heard in this hall in favor of a distributive share of the public lands for education, which she so much requires?

I have seen no report from North Carolina; and I deeply regret that there is not a feeling of reciprocity between the States and the National Government to furnish each with all their reports and public proceedings; for, alike in State or the National Legislature, its members are embarrassed in their public deliberations from a want of access to useful reports. But North Carolina must greatly require an improved system of education; for you will find in the journals of this House, in the evidence in

relation to the contested election from North Carolina, in the first session of the Twenty-second Congress, that, out of one hundred and eleven voters who gave testimony, twenty-eight had to make their marks; in other words, one-third could not write their names; and her voice has not been heard in this hall or the other claiming a portion of the public domain for the education of her ignorant children—a State which is the parent of Tennessee; a State in which Sir Walter Raleigh's emigrants first settled; a State which has the honor of standing proudly the first to declare, by a political State act (to say nothing about her Mecklenburg convention), her determination to be separated from the mother country; for, on the 12th of April, 1776, the congress of North Carolina "empowered their delegates to declare independence."

If we were to form a general opinion of the condition of education in other States from like circumstances, we would conclude that Kentucky is but slightly in advance of North Carolina.

You will find recorded in your journal of proceedings a case almost as remarkable in the first session of the succeeding Congress, that in the evidence given in the contested election of Moore and Letcher; of one hundred and twelve names of witnesses which I counted, sixteen were marksmen, or about one-fifth who could not write their names.

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The effect of education upon a nation is not alone in the mental and moral exaltation of its people, but the consequence is in equal ratio upon its physical energies and the increasing development of its resources. To sustain the latter position I will read an extract from the very able and most valuable work of Mr. E. C. Wines, on the subject of "Popular Education." He says that "the intellect of this people is not cultivated to one-fourth—scarcely, perhaps, to one-eighth—the extent that it would be by the adoption of a wise system of universal education. And who can calculate the results? What imagination can set limits to the pecuniary advantages that would accrue to the country if useful inventions and discoveries were multiplied fourfold? * * * In illustration of this point, President Young has made a comparison, founded upon the statistics of Baron Dupin, between the commercial and manufacturing condition of England and France. From this calculation it appears that the muscular force employed in commerce and manufactures in these two countries is about equal, being in each equivalent, in round numbers, to the power of six millions of men. Thus, if the productive enterprise of the two countries depended solely upon the animate power employed, France ought to be as great a commercial and manufacturing country as England. But the English, by means of machinery, have increased their force to a power equal to that of twenty-five millions of men, while the French have only raised theirs to that of eleven millions. England, then, owing to her superiority in discovering and inventing, has more than quadrupled her power of men and horses. France, on the other hand, has not quite doubled hers. Is it," the learned professor then pertinently inquires, "is it now any wonder that these islanders, with a narrower territory, smaller population, and less genial climate, should immensely outstrip their less intelligent and ingenious neighbors? Can we conceive a stronger proof of the actual pecuniary gain that accrues to a nation from cultivating the intellect of her sons than is furnished from such a fact?" How much does England gain by her superiority over France from this fact? The actual commercial and manufacturing power of the latter country is only two-fifths of that of the former. The present annual value of the cotton manufacture of Great Britain, according to the Encyclopædia Britannica, is estimated to be about thirty-five millions of pounds sterling. Three-fifths of that sum, or more than twenty millions of pounds, is England's clear gain over her less skilful rival; an amount more than three times as great as the whole present annual revenue of the United States; and for this vast and ever increasing tide of prosperity England is clearly indebted to popular education, which is the parent of intelligence and the ultimate cause of all those improvements in the cotton manufacture by which these amazing results have been secured.

At one time England imported her cotton fabrics from India. By the invention of machinery, she now imports the raw material, sends it back seven thousand miles, manufactured, for sale in a country where the hand loom is still used. By Middleton's genius London is saved annually about eight millions of dollars in the facilities of furnishing water for that city. What amount of labor has been saved by Whittemore's card making machine? Whitney's invention of the cotton gin has more than doubled the value of every acre of cotton land in the South. And Fulton created a miracle by his steam invention, which has propelled the present generation more than two centuries ahead of their otherwise destination. It is beyond the estimate of human calculation to compute the resources and power of this nation if education were universally diffused, so as to bring its influence to bear upon their full development. But the limited statements which I have given show how deplorable is the condition of education in most of the States; how many who cannot even read or write. The Emperor of Austria has issued an edict preventing those from marrying who cannot even read or write. The purpose is good, yet in this country it would be regarded as cruel. By the constitution of Peru no one will be allowed the privileges of citizenship after 1840 who cannot read and write. With all our boasted intelligence, such a law would create in this nation a civil revolution.

What lover of his country would not hope that the day was but shortly distant when this nation would present a spectacle worthy of its destination, when every citizen should enjoy the benefit of a generous education? And I would speed, with Wordsworth—

> The coming of that glorious time
> When, prizing knowledge as her noblest wealth
> And best protection, this imperial realm,
> While she exacts allegiance, shall admit
> An obligation, on her part, to teach
> Them who are born to serve her and obey;
> Binding herself by statute to secure
> For all the children whom her soil maintains
> The rudiments of letters, and to inform
> The mind with moral and religious truth.

While these struggles were going on in Congress interesting changes in respect to education were taking place in various States. It can hardly be doubted that, had the considerations presented by the friends of education in Congress from 1825 to 1860 been brought forward and their maturity of plans reached before 1810, there would have been adopted some general, comprehensive, and equitable plan for the aid of education in the old States as well as in the new; but slavery, gradually dying out from the Northern and Eastern States and not being permitted to enter the Northwest Territory, had gradually come to be more profitable in the Southern and cotton raising States, and to assert itself for its own protection in national legislation. Universal education would imperil it, therefore Congress must be shy of aiding it. In the States in which slavery had most strongly intrenched itself the great efforts made by noble spirits for the promotion of education were only partially successful. University education was favored because it educated the master; but efforts for elementary education resulted chiefly in "pauper" schools, as they were officially characterized by Governor Hammond, of South Carolina. In those States in which slavery was passing away there were marked efforts to promote a revival of education; associations were

formed, discussions held, tracts issued, legislatures memorialized, and yet, perhaps, none of these that succeeded in bringing about favorable legislation were more able or significant than those that were, during this period, prepared and presented in Kentucky and Maryland, where the influence of slavery rendered them of no avail. In New England, when Horace Mann, Dr. Barnard, and their compeers came on the stage of action, these efforts began to secure recognition in legislation. Reports on education in Europe, especially of German schools, made by Bache, Mann, Stowe, and Barnard, were printed and circulated at State expense. The results we see to-day; they need not be described.

It is an interesting fact and worthy of special note that in all the efforts for national aid to education southern men were especially prominent in the Congress of the Confederation, in the convention which adopted the Constitution, and in the series of efforts which followed in Congress, to which I have alluded.

SPECIAL NEEDS OF THE SOUTHERN STATES.

Why should these considerations be renewed to-day? It is undoubtedly true that as each new State is carved out of the remaining public domain the appropriate sections will be set apart for the State university, for the common school, and the appropriate grant made for the college of agriculture and the mechanic arts. But if this be done the necessity which brought on the continued agitation to which I referred for equalization and general distribution still remains.

Slavery, whose interests hindered and defeated, as we believe, the adoption of a systematic plan, has passed away.

In the States where it has been more recently abolished, peculiar circumstances render national aid necessary and desirable.

Dr. Sears, in his last able report to the trustees of the Peabody fund, says:

I have already alluded to the debts which, with almost crushing weight, hang over most of the Southern States. Among other questions of fearful import which are engaging the attention of public men in these States, that of supporting or not supporting the schools in their existing financial condition is not the least perplexing. It is not for me to express an opinion how far it would be expedient or possible for Congress to come to the aid of the impoverished States, by making temporary or permanent provision for national education. The subject is not a new one to Congress. But if ever there was a moment when its consideration seemed called for by the exigencies of the cause of education in the Southern States it is this moment. Nor can it ever be regarded as a mere local or sectional question. No part of the country can be uninterested in its decision. The want of good schools in any quarter of the Union is an injury to the whole Union, as the success of republican institutions rests upon the intelligence and capacity for self-government of the whole people and of all the States. The inability of some of the States to maintain their schools for more than four months in the year may have influences far beyond the region in which the inability exists. Our own funds are obviously insufficient for the exigencies which such a state of things creates; and I can only make this passing allusion to it as an evidence that it has not been unobserved in the discharge of the duties which have devolved upon me.

I do not know of a single prominent school official in one of these States who does not desire this aid. One gentleman, at the head of a State system, who was State superintendent of public instruction before the war, referring to the difficulties of raising funds in his own State, observes that they can contribute hardly one-fourth of the amount necessary for such a system:

May I not, therefore, my dear sir, request your recommendation of such measures as will benefit this State in connection with her sister Commonwealths, and thus strengthen her attachment to the Government of the Union, of which she *now* feels and appreciates the kindly beneficence?

To whom can we appeal for a correct judgment on this subject if not to those specially charged with the responsibility of administering education in these States? In all my intercourse with these gentlemen and direct communication on this subject, all save two have been emphatic in their approval and urgency. No one who studies education in any of the States can fail to see the need of important improvements. The fact mentioned by the President in his late message, that one in seven of the voters of the country is practically illiterate, is a comprehensive and conclusive statement of the necessity; while in a number of the States a majority of the voters are unable to read their ballots.

POSITION OF THE DISTRICT OF COLUMBIA.

But we cannot contemplate education in a national light without looking to that domain which is beyond State organizations, and which in respect to education has been conspicuously neglected since the passage of the great ordinance of 1787. The District of Columbia should have fair and just consideration. The fact that the seat of government is here gives the nation a peculiar interest in the intelligence and virtue of the population. Where else should these characteristics be more conspicuous? The security of Government property, the honesty and efficiency of Government employés, and the fair fame of the nation are specially involved. Besides, there is special injustice in taxing the permanent population to provide the necessary means for the education of the children of those here as visitors or residing here temporarily in Government service. This the President has appropriately recognized in his recent message. But our Territories are in some respects peculiarly situated, and specially deserving of aid according to their population. For nearly twenty years New Mexico was without any legal provision for common schools, and the 25,000 to 30,000 Alaskans today have no provision in law by which they can organize themselves to build a road, erect a school-house, or employ a teacher. Yet this is the best Government on which the sun ever shines. But I have said enough to justify the anxiety of the educators of the country for some just and comprehensive action by the General Government in aid of education. True, by the Bureau of Education it gathers, records, and publishes the educational experience of the several portions of the coun-

that Hon. G. J. Orr, superintendent of Georgia schools, make the convention acquainted with the needs of education in his State.

Mr. Orr's brief remarks, to the same effect as those already given in the proceedings at the meeting in 1879, are here omitted. His remarks at that meeting are given in extenso (pp. 46–58).

Mr. PHILBRICK expressed the warm sympathy felt by the educators and the people of Massachusetts for the difficulties encountered by Dr. Orr and his fellow workers, and said that he was heartily in favor of establishing an educational fund as provided in the bills now before Congress. He thought the income of such a fund should be distributed for ten years on the ratio of the illiteracy; this plan he much preferred to that of distributing the money according to the territorial area. The object of giving the money should be to give help where help is most needed, and not to put a premium on an accident. He recognized the responsibility of the National Government, and would have Congress begin by supporting education in the District of Columbia. The speaker was glad to bear his grateful testimony to the uniform and cordial support that educators in Massachusetts had always received from the honorable gentleman (Mr. Loring) during his service as a member of the State legislature.

Mr. ORR wished to add that, in his opinion, the Southern States would not wish to receive aid from the national funds unless they were held accountable for the manner of spending the same, as provided in the bills pending before Congress.

Mr. HENDERSON said that this measure (Mr. Hoar's bill) solves two problems for Kentucky. When he became State superintendent, Kentucky was without any system of education for the colored people. He devised the best he could; he tried to do what he thought was right, but his plan was more liberal than any the legislature would adopt. The law gives the colored people every dollar of their taxes for education, and in towns their part of the municipal tax also. The taxes paid by colored people have doubled in three years. The provision was made that, if the Congress of the United States should give the States the proceeds of the sale of the public land, the appropriation of that money should go to the colored people until the per capita of colored children equalled that of the white children. The second point is that the bill solves the normal school problem for Kentucky. The speaker felt a great deal of interest in this bill, and expected to stay long enough to use such influence as he had to see it through. In office for six years by a vote of 235,000 citizens of Kentucky, the speaker claimed to know something of the wants of the State.

Mr. BOWMAN said that there seemed to be but one sentiment about those bills, and he wanted to thank his friend from Massachusetts.

On motion, the Department adjourned, to meet at 10 o'clock the following morning.

THIRD SESSION—WEDNESDAY MORNING.

WASHINGTON, D. C., *December* 12, 1877.

The Department reassembled at 10 o'clock. The President called attention to letters from A. P. Stone, superintendent of public schools, Springfield, Mass.; James C. Weaver, county superintendent of Accomack County, Va.; R. D. Shannon, State superintendent of public schools, Missouri; and S. M. Etter, superintendent of public instruction, Illinois.

EDUCATION AT THE PARIS EXPOSITION.

The committee on the Paris Exposition made the following report:

The committee appointed to consider the question of the representation of the educational interests of the country at the Paris Exposition respectfully report the following propositions:

1. That we consider it of the utmost importance that the educational interests of the country should be represented at the Paris Exposition.

2. That the President be earnestly requested to appoint as one of the paid commissioners provided for in the act of Congress a competent scientific expert in matters of education to organize and take charge of the educational exhibit of the United States, and to report upon Group II of the Exposition, relating to education, instruction, and products of the liberal arts.

3. That the President be also requested to appoint a fair proportion of the honorary commissioners with reference to their special qualifications either to assist in organizing such an exhibition as is contemplated by Group II or in reporting upon the question of education as therein exemplified.

4. That an effort be made to have set apart a fair share of the appropriation made by Congress for the organization and installation of the educational exhibit.

5. That the commissioners assigned to take charge of the educational exhibit be urged to establish as soon as practicable a headquarters, at the port from which the goods are to be shipped, for the purpose of receiving articles and arranging the exhibit.

6. That, if the measures above indicated be substantially adopted, we pledge ourselves to unite in an effort to have the educational interests of the whole country adequately represented in all their departments, means, methods, and results; but, if these interests should be ignored in the appointment of commissioners or in the distribution of the money appropriated, we deem it impossible to make an exhibition that will be creditable to the country.

7. That a copy of this report, signed by the officers of the department, be placed in the hands of the President of the United States and such other authorities as may be proper to advise concerning our views on this subject.

8. That the committee be continued, for the purpose of carrying what is herein proposed into practical effect.

The report was adopted.

AMERICAN EDUCATION.

President Wickersham then introduced Hon. GEORGE B. LORING, M. C., of Massachusetts, who delivered the following address:

Gentlemen, I trust it will not seem inappropriate to discuss briefly in a business meeting of the representatives of the educational organizations of our country the aim

and object of American education. Not an expert, but merely an interested observer, with some past experience both as teacher and learner, I present my views with diffidence and distrust. The efforts now made to cultivate the popular mind by all the appliances of college and academy and high school and schools of industrial art command my most profound respect, and those who are engaged in their development and control command my warmest sympathy. In what I say, therefore, I would in no way criticise their service. But I desire to offer some suggestions on the general culture of the youthful mind, which may perhaps serve to broaden and strengthen the work now so well performed. An intense devotion to an organized system, and a deep desire to perfect it, may at times contract our sphere of vision and confine our efforts. If this has occurred in our educational work in any way, I think it will do no harm at least to remember that *a broad general culture of the mind is necessary to prepare it for education for a specific purpose*, and that by such general culture can the object of American education be best attained.

In considering American education generally, and to some extent abstractly, I shall discuss—

1. The kind of intellectual culture the colonists brought with them, and their object in founding institutions of learning;

2. The American characteristics which have been developed and strengthened by education of every variety; and

3. The practical matters which should be applied to the work of American education: the relations which should be established between teacher and pupil, especially in a country like ours; the extent to which graded schools can be wisely and profitably carried on; the school-house best adapted to the educational work in which we are engaged; and the influence which the pupils may and should exercise upon each other.

In doing this our attention is first attracted by what is usually known as the academic system, which grew up with the American colonies and has received the special care of the American Republic; and by this I do not mean a system of classical culture alone, but a system of mixed and general education. In the hands of the founders of the state here this system became identified with the establishment of education upon a popular basis, emancipated from all control as a privilege and extended and confirmed to all as a right. It is a remarkable and interesting fact that the emancipation of science from ecclesiastical tyranny and intellectual arrogance by Bacon and the establishment of a state upon recognized popular principles occurred at about the same time. The first half of the seventeenth century in England was distracted by intellectual and moral and religious protests. Bacon in science, Milton in literature, Cromwell and Hampden and Pym in politics, all represented that advancing and protesting force which has given England her power and sent a democratic vitality into the colonies, which were largely peopled and almost universally inspired by independent Englishmen. It was an era of right and not of privilege. The hard lines of scholasticism were breaking up. Great scholars were scholars for the people and not for the schools. The Protestants and non-conformists and separatists of England could not accept as a guide to their thought a system of philosophy which was made indisputable by the doctrines of a church whose ecclesiastical authority they denied, whose spiritual guidance they rejected. The learned men of England who watched and many of whom took part in the colonizing of America had long applied their minds to the investigation of problems connected with the best systems of popular government. When William Brewster was graduated at Cambridge in 1585 he carried his excellent scholarship at once into the work of guiding and counselling that little band of pilgrims who were then waiting at Scrooby for an opportunity to found an empire on freedom of conscience in matters of religion, a popular government on the consent of the governed. Occupying a high position among the progressive and independent thinkers of his time, he became familiar with the doctrines which disestablished the church in the most religious and fervid spot on earth in that day, and

which shook the throne of England. What a defiant crowd of scholars, taught in the same school, inspired by the same thought and speculation, bent on the same purpose, flocked to these shores, bringing the independent spirit of the Protestant with them, under the care of the Huguenots of Carolina, the Covenanters of New Jersey, the Puritans of New England, and the Quakers of Pennsylvania! When Roger Williams came to this New World and found no rest for the sole of his foot until he had established for himself an opportunity to exercise the most "unqualified freedom of conscience under human government," he brought with him the culture which controlled the most powerful of England in his day. When Sir Harry Vane brought to the gubernatorial chair of the Massachusetts Bay colony a spirit of liberality and freedom which called around him the liberty loving men of that day, and clothed him with a power which Winthrop himself in support of magisterial authority could barely overthrow, he came fresh from Oxford and the best schools of Holland and Germany, imbued with that spirit of learning which neither church nor state could subdue, and which won for him the divine tribute of Milton's verse and an immortality in that great chapter of the world's history—that chapter in which is recorded the founding of civil and religious freedom in America. And so came Endicott and Hooker and Cotton and Raleigh, familiar with the faces of those who are now to us the classic English writers, born of a people who were untamed and untamable in their self-assertion, who were nurtured on the sublimest English poetry, upon whose heaven-kissing summits the poets of all succeeding generations have been gazing with hopeless wonder and admiration, and on the most defiant English philosophy, which opened the path trod by all modern investigation; a people who declared for freedom and then fearlessly struck for it; who asserted a prerogative and then demanded a right; who in the Old World now rally round a throne as the insignia of their national power, and in the New World stand by a Constitution as the expression and embodiment of their social and civil principles. Born as these men were of controversy, dialectics, and debate, they strove with each other on the "weightier matters of the law," and disputed with ecclesiastical fervor upon the covenant and the doctrines, until the integrity and safety of the state itself seemed involved in the controversy. The pious zeal of John Endicott in executing the laws against those who differed from the religion of the colony; the political ardor of John Winthrop in organizing a defeat for Sir Harry Vane as governor of the colony on account of his defense of Mrs. Hutchinson against the bigotry of the colonial clergy, mark the spirit and character of the controversies which sprang up in those early days of civil and religious freedom. But on one point they united: the establishment of a popular system of education in which all might have a share; a system intended to cultivate all men into a fitness for the enjoyment of the privileges of a free state and for the exercise of its rights, they never forgot and never neglected. They might exhaust themselves over "fixed fate, free will, foreknowledge absolute;" they might rend the state itself in a contest over the covenant and the half way covenant, the civil rights of communicants and non-communicants, but for the cause of common education they joined hands and poured forth liberally from their resources in support of the school-house and the college. It was education which had filled their minds with the doctrines of freedom, and they believed that through education all men could be brought to a true understanding of the church of Christ and to an intelligent exercise of their rights as citizens of a free state. For the disputations of the schools they substituted the debates of the town meeting; for the private school they substituted the district school-house, open to all; for a corporation of learning they substituted a republic of letters. They left b ehind them a system of state and society in which education would naturally confine itself to narrow channels, and they entered upon the organization of a state whose power would arise and increase from a general diffusion of knowledge through all ranks and orders of men. On the soil which they reclaimed and occupied has grown up a system of education which offers its blessings to all, which indeed would compel all to partake of its living waters; a system supported and de-

veloped by the liberality and care of the state, and so universally organized that it would be easier to escape from the influences of the sun than from the omnipresence of the American school-house. They left behind them in the old country the general belief that the masses of the people require no education and that to cultivate their minds is simply to render them restless and discontented; and they left behind them also the general custom of endowment schools and universities, in the former of which the teacher and the endowment alone remained, and in the latter of which a privileged class enjoyed the entire benefit of the modes of instruction. To this western hemisphere they gave a republic of civil freedom; to the world they gave an impulse of popular education that in our own day has made the land they left the abode not only of the great universities but of a widespread and universal organization in which three millions of children are annually taught and to support which more than eight millions of dollars are annually appropriated. Had the American colonists done nothing more than this—had they failed to establish an independent nationality, and simply organized their popular school system—they would have accomplished a work for which their memories would ever be held in grateful remembrance; a work whose influence is now felt wherever the light of civilization shines; a work in the performance of which the most powerful and enlightened nations of our day are engaged in a generous and honorable rivalry.

THE NATIONAL CHARACTERISTICS DEVELOPED BY EDUCATION.

The spirit which animated the early founders of the American system of popular education also established to a very considerable extent the object which that system has always had in view, the result to which it naturally tends. In cultivating the minds of a people, the most striking effect produced is the intensifying and strengthening of their national characteristics. It is culture which makes a nation most deeply national, gives new warmth to its vitality, new vigor to its powers, fresh impetuosity to its national impulses, a keener edge to its intellectual faculties, loftier purpose, a higher destiny. It is not surprising, then, that the institutions of learning scattered freely throughout our land should have preserved and magnified those characteristics which not only gave to us existence as a people, but gave peculiar significance and power to our introduction among the nations of the earth. The love of freedom, the hatred of oppression, the devotion to an independent form of faith, the intense individualism which marked the early career of the American colonists, have all been nourished and developed into broader and stronger life by our national experience and education of more than two centuries. The Puritanism of to-day, though perhaps somewhat modified, is a warmer and more defiant Puritanism than that brought hither by Endicott and Winthrop. The liberalism of John Robinson and his pilgrim band, broad as it was at Plymouth, is broader and freer to-day in all Massachusetts—perhaps in all North America. The strong powers of our childhood have been cultivated into the stronger powers of our manhood; and I think it is not too much to say that while we have retained and increased the forces, we have triumphed over and eradicated many of the weaknesses of our high toned and defiant, and at the same time bigoted, and perhaps suspicious and overwatchful, ancestors.

The foremost object and effect of two centuries and a half of popular education on this continent has been to deepen and develop our nationality. It has produced an abundant crop of American citizens—not subjects, not persons destined to specific duties, high and low, but citizens, clothed with obligations and responsibilities, and supplied with abundant opportunities for the exercise of all their faculties. When Samuel Adams took his master's degree at Harvard in 1743, he selected as a subject for his thesis the following question, which his career has made immortal: "An supremo magistratui resistere liceret, si aliter servari respublica nequit?" ("Whether it be lawful to resist the supreme magistrate, if the commonwealth cannot otherwise be preserved.") While Thomas Jefferson was yet an infant in his cradle, on the beautiful banks of the Rivanna, this Boston boy, educated in the Boston schools and filled

with the effects of the Puritan culture of Massachusetts, had reached even at the very commencement of his intellectual endeavors a fundamental civil problem upon the solution of which all the philosophical thought of Jefferson exhausted itself in support of the American Revolution and to establish the affirmative of which Washington dedicated all his imposing powers. In the mind of this young graduate of Harvard the condensed thought of more than a century of colonial life found an abiding place, and the topic which occupied his meditations was the subject which lay nearest to the hearts of his people. He was not alone in his investigations: the highest and best laws of state and society occupied the active minds of that day wherever they might be found, whether in the assemblies of the elders, or in the austere labors of the Puritan pulpit, or in the town meetings, or in the institutions of learning, the common schools, the academies, the colleges. Every village had its Samuel Adams. Every town record had its Declaration of Independence. From many a meeting house went forth the announcement of faith in human equality as the foundation of the state long before the national utterance at Independence Hall. It was American citizenship which constituted the first great object of American education. In all the practical affairs of life the fathers exercised their best powers, and became good merchants, good mechanics, good farmers, good legal advisers, strong and influential parish ministers; and for this service they stored their minds with the best knowledge to be derived from experience and books. But they knew well that the great civil problem committed to their hands required intelligent thought and needed the support of cultivated minds as well as defiant hearts and strong arms; and while they had great confidence in the correctness of the popular impulse of their day, they had still greater confidence in the enlightened consciences and educated instincts of a people who believed in mental culture and made provision to obtain it. And to-day, as in the former days, surrounded as we are by the most perplexing questions of state and society, called upon to strike as well as to bear, laden with the trials of war and the highest responsibilities of peace, compelled to be ruthless now and now generous and placable and forgiving, we must recognize the value of that intelligence and thoughtfulness which are the natural fruits of popular education.

Not long ago one of the most remarkable students of the theological and political questions which involve the welfare and the destiny of state and society in America, prefaced one of his eloquent lectures before an admiring audience in the city of Boston with the following incisive quotation from De Tocqueville:

Individualism[1] is of democratic origin, and it threatens to spread in the same ratio as the equality of condition. Among aristocratic nations, as families remain for centuries in the same condition, often on the same spot, all generations become, as it were, contemporaneous. A man almost always knows his forefathers and respects them; he thinks he already sees his remote descendants, and he loves them. He willingly imposes duties on himself toward the former and the latter; and he will frequently sacrifice his personal gratifications to those who went before and to those who will come after him. Aristocratic institutions have, moreover, the effect of closely binding every man to several of his fellow citizens. As the classes of an aristocratic people are strongly marked and permanent, each of them is regarded by its own members as a sort of lesser country, more tangible and more cherished than the country at large. As, in aristocratic communities, all the citizens occupy fixed positions, one above the other, the result is that each of them always sees a man above himself whose patronage is necessary to him and below himself another man whose coöperation he may claim. Men living in aristocratic ages are therefore almost always closely attached to something placed out of their own sphere, and they are often disposed to forget themselves. It is true that, in these ages, the notion of human fellowship is faint, and that men seldom think of sacrificing themselves for mankind; but they often sacrifice themselves for other men. In democratic times, on the con-

[1] De Tocqueville distinguishes between selfishness and individualism: selfishness he defines as the exaggerated love of self which leads a man to connect everything with himself and to prefer himself to everything else; individualism, as a mature feeling which disposes a man to sever himself from the mass of his fellows and draw apart with his family and friends, forming a little circle of his own and leaving society at large to itself. Selfishness originates in blind instinct; individualism proceeds from erroneous judgment more than from depraved feelings.

trary, when the duties of each individual to the race are much more clear, devoted service to any one man becomes more rare; the bond of human affection is extended, but it is relaxed.

Among democratic nations new families are constantly springing up, others are constantly falling away, and all that remain change their condition; the woof of time is every instant broken, and the track of generations effaced. Those who went before are soon forgotten; of those who will come after, no one has any idea. The interest of a man is confined to those in close propinquity to himself. As each class approximates to other classes and intermingles with them its members become indifferent and as strangers to one another. Aristocracy had made a chain of all the members of the community from the peasant to the king. Democracy breaks that chain and severs every link of it.

As social conditions become more equal, the number of persons increases who, although they are neither rich nor powerful enough to exercise any great influence over their fellows, have nevertheless acquired or retained sufficient education and fortune to satisfy their own wants. They owe nothing to any man. They expect nothing from any man. They acquire the habit of always considering themselves as standing alone; and they are apt to imagine that their whole destiny is in their own hands.

Thus, not only does democracy make every man forget his ancestors, but it hides his descendants and separates his contemporaries from him; it throws him back forever upon himself alone, and threatens in the end to confine him entirely within the solitude of his own heart.[1]

It is this democratic characteristic which lies at the very foundation of American civilization and thought, and which when based on intelligence is admirable and when based on ignorance is repulsive and dangerous. It is this which makes an American truly American, and forbids that he should be ingrafted upon any other nationality. It is this which tempts all men to our shores, expanding their powers as they come under the influence of free institutions and converting them into Americans long before they have laid aside the customs of their native land. The emigrant who seeks only a home and a subsistence here, as he ponders upon the social privileges and civil rights which come within his grasp, feels the uprising of that sense of personal dignity and importance which forbids, at any rate, that he should return to the condition which he left behind him in the Old World, and which, perchance, may thoroughly fit him for the duties and opportunities of the new. A student passes out from one of the great universities of Europe, accomplished, educated, filled with knowledge which fits him for high service in life, and finds himself attracted to America as a sphere in which he can exercise his powers. On him the expanding influence of free institutions is not wasted, and he rises at once into the regions of active American thought, accepts the best doctrines of human freedom, takes his place slowly in the ranks, is found among the leaders, fights his own fight, is individual and alone, and becomes by natural growth the most striking specimen of American individualism in all his speculations and actions. And so it comes about that you can Americanize every nationality on earth, but you can denationalize an American never. Now, not to our ignorance, not to our depravity, not to our low moral elements, not to our defects and faults do we owe this power, but to whatever there is in us as a people which is morally attractive and intellectually imposing, to the influence upon us of our churches and institutions of learning. It is not the chance for political preferment or the contest for social and civil supremacy which impresses the minds of even the ignorant as they make their homes here. It is the moral and intellectual endeavor going on here, and the opportunity afforded for the free cultivation and exercise of the best faculties, which constitute that indescribable charm felt even when it is not understood. Nor is this individualism to be perfected by placing the protection and defence of man's intellectual rights in the hands of a few set apart by education or good fortune for the work of marshalling the mental forces of society. But when the masses of men are brought to a position superior to dogmatism and bigotry; when they listen to the voice of reason in things temporal and spiritual; when they have learned enough to know that intellectual arrogance and abject ignorance are equally dangerous to free institutions; when they learn the true value of man's noble qualities and the true hideousness of his mean ones, then will they have reached that point

[1] Democracy in America, Bowen's translation, vol. ii, pp. 119-121.

of mental and moral development which will prevent either their enslavement or their betrayal, which will protect them against both the coercion of the dogmatist and the wiles of the sophist. I can conceive of a high toned and intelligent individualism which will elevate a pure democracy as far above the classifications of imperialism, either political or intellectual, as the home of a refined and prosperous citizen is superior to the abiding place of a serf. And that is to be reached by education alone; by a popular system of education which opens the school-house to all and provides that all who will may drink of the waters of life freely. Is not this manifestly an important object of American education? Not yet has this object been reached, nor will it be until American men cease to consider that they may be educated above the public questions of the day into a region of sublime contempt for the political duties and problems which present themselves on every hand to the patriotic and thoughtful, and cease to intrust the cares of the state to the unworthy. Not yet has this object been reached, nor will it be until American women learn to realize the responsibilities which rest upon them, and to meet with readiness and courage the duties which are continually falling into their hands, and which are but the prelude to higher and more active service.

That one object of American education is to give to labor the additional power of intelligence and skill it is hardly necessary for me to state. All men here believe in the well taught as against the ignorant in all the practical service of life. But you will allow me to allude to certain details in which practical education may not only cheer the hours of culture and luxury, but may also lighten the burdens of toil and ameliorate its cares. Men now believe in a busy life. They have even less faith in an idle one than Dr. Watts had when he wrote—

> For Satan finds some mischief still
> For idle hands to do.

I have no idea that the value of precept, and the power of doctrine, and the importance of abstract morals, "line upon line," and the efficacy of appeal, and the restraining influence of threatened punishment are all forgotten in these days of material enterprise and untiring ingenuity. But to all these we have added the encouraging and restraining and cheering influences of diverse industries. The law of reform and of prevention of error and crime is now based upon an active and cheerful employment of the head and the hands. We have found that there is less of crime and intemperance in the busy than there is in the idle communities, and that immorality decreases in proportion as every variety of occupation increases. The possession of a quick eye and skilful fingers is always a delight to the possessor; and as the average human mind is constituted, more cheer and comfort and encouragement are derived from the achievements of practical faculties than from communion with the great creations of the highest intellectual powers. The exhilaration which attends scientific investigation, or the application of mechanical forces, or designing, or constructing, or inventing, is great. We have a kindly attachment to the work of our own fingers; and when they are busy, and the product of their labor is constantly unfolded before us, we are in good condition to carry into practical operation good resolutions, and are filled with a cheerful courage to contend with an approaching foe. We turn, then, from the book of maxims to the pages of science and technology with confidence, and call in industrial and technical education as a powerful ally to the moral agents which are employed for the benefit of society. The day of crude labor, moreover, is over. In almost every avocation, toil is the triumph of man over the obstacles which surround him; and as he stands erect before them, bowed down no longer by their depressing weight, he is filled with a sense of exhilaration which gives him new and unfailing strength to meet the trials and temptations of life; and he is also filled with a consciousness that he is using the powers of art and science to enable him to meet all the requirements of business based on rapid production and an economical supply.

The day of ugliness is also well-nigh over. Men are not satisfied with clumsiness

and want of grace, nor with the absence of adornment and decoration. They all undertake to judge of shapes and colors; demand pleasing designs in their carpets—and carpets they will all have; are pleased with the Greek square in the paper which adorns their walls; will have a few lithographs, or photographs, or chromos, or engravings; are eager for illustrated literature; believe in spanning continents and seas by steam, and converse from one great city to another with the telephone; are impatient of delay, and have little love for clumsiness and little faith in ignorance. For the purposes, then, of moral reform, for the amelioration of labor, for the cultivation and gratification of the tastes, for the development of our industries, we demand schools of technology, and normal art schools, and schools of design; and let no man who opposes the founding of such schools suppose for a moment that he is obedient to the popular demand, or considerate of popular necessities, or devoted to public economy, or mindful of the public good. Carry the fruits of industrial education into the various walks of life and we shall give fresh vigor to our arts and industries, we shall give new employment to an active and intelligent generation, we shall hear no more of the ignorance of our artisans, and have no more chance for the gloomy pictures, either real or imaginary, of the social and domestic degradation so freely and, as I think, unjustly charged upon our rural homes.

PRACTICAL METHODS OF AMERICAN EDUCATION.

And now, gentlemen, in an assembly like this, I am sure I may with propriety suggest that to all this object of American education there should be laid a comprehensive and liberal foundation. The wise and sagacious husbandman, who would secure abundant crops, prepares his land with uniform skill and care in early spring, and supplies it liberally with all the elements of fertilizing material, conscious that while his crop may differ the land may by one process be brought to a condition suitable to the growth and maturity of every variety of his plants. It is a fertile and genial soil that he needs, whatever may be his crop. So, I think, may the teacher of childhood and early youth prepare the young mind by a broad and liberal and general culture for the specific duty which is laid out for it in after life, for the specialty to which each scholar is to dedicate his maturer powers. I say this with entire deference to those who belong to that complicated and organized machinery of education, composed of committees, teachers, institutes, and every variety of school, and a part of which is the graded system now so generally adopted. But I have been young, and now am old; I have been a scholar and a teacher, and am now an observer; and I would remind those engaged in the business of leading the youthful mind through the early paths of knowledge, that teachers may be converted into machines and children may be benumbed by a method as systematic and unvarying in its operations as a Jacquard loom. The mind, like the body, soon grows weary if subjected to one continuous and unchanging effort. The work becomes mechanical and uninteresting. And in a room dedicated to one grade of education for teachers and pupils alike, I am often reminded of that rude old interrogatory rhyme which has never yet been answered:

> If all the earth were paper and all the seas were ink
> And all the trees were bread and cheese, what should we do for drink?

The mind craves change. The young mind especially demands variety. It cannot live by bread alone. The teacher who has it in charge cannot satisfy it by one thought or one illustration, or by pointing out but one way for it to travel. Nor is any companion more distasteful and wearying to a child than a companion who has but one side to present, but one gift to bestow, but one story to tell, but one lesson to teach. I may be mistaken in this matter, but I cannot conceive how under circumstances like these any intimacy whatever can grow up between teacher and pupil; and without intimacy the labors of both are vain. It is as necessary to the perfect working of a school that a true and intimate relation should be established between the teacher and those who are to be taught as it is to establish a true relation between parent and child in a well ordered family, for the well being and benefit of both. Under the

guidance of the teacher, moreover, the best relations should be established between the scholars. And above all, and almost more than all, the most friendly and cheerful relations should be established between the scholars and their books, so that lessons shall in no sense be tasks, the printed page shall never be distasteful, and in after life the books themselves should be the most agreeable companions. All this may possibly be done in a graded school; if so, I am content.

But let us contemplate now another picture. The academic system—and I call it the academic system because it was the educational system of the old American academy when it was in its prime and was engaged in most useful and honorable educational work—presents itself to view. A teacher is placed in charge of a number of scholars, not so large that he cannot understand and appreciate the wants and weaknesses and characteristics of each. The business of the school goes on. It is a work of general culture in which all are engaged. The teacher makes himself the leading scholar of the school; solves the hard problems with the dull; encourages the application of the bright; presents the beauty of the study when there is any; smooths the hard, dull way whenever such a way is entered. The discipline is one of mutual understanding, not of authority and fear alone. The teacher attracts the scholars and secures their respect by his varied accomplishments. The text books themselves appear in his hands as the companions of the cultivated and competent guide. Not the studies and the teacher alone are strengthening and instructing the minds of the pupils, but the pupils themselves are imparting knowledge to each other, and when the page grows dim to the weary eye and the phrase has no meaning to the benumbed and tired faculties, the stimulus of a bright recitation irradiates the room, the relief of a new train of thought comes like a fresh breeze from the north to vitalize the heavy air, and perhaps by the voice of that young scholar and teacher combined the first spark is struck which points to the fire within. That all this can be done, I know, for I have seen it done. I had many a schoolmate in my youth who, in after life, could tell me the companion who first taught him the methods of solving the problems of mathematics, and the one who suggested the best inflection in reading, and the one whose voice first warmed him with a love of oratory, and the one who first impressed his mind with the idea that a recitation might be gracefully done, and that the modes of expression used in common conversation are worthy of the careful study of every one who values the intercourse of his fellow man and who knows that the light and cheer of the household are largely dependent upon the manner in which its inmates convey their thoughts to each other. And what public and private benefactors these are: a good reader, who has not plunged into the Dead Sea of modern inflection; a good writer, who expresses his thoughts in sound, well defined English, and knows where to place his adverbs and how to choose his prepositions and conjunctions; and a good talker, who knows how to lead his companions gracefully into subjects of interest and does not bury them alive under his own talk when he gets them there. You may call an educational method like this a Kindergarten prolonged into the time when the scholar is to enter upon his college career or upon the specialty to which he determines to devote himself. It may be so, but it is a garden in which may grow minds filled with a love of knowledge, supported by the vitalizing food of general culture, in sympathy with all intellectual endeavor, knowing enough of human nature to preserve their own self-respect and to secure the respect of others and, if the teacher has done his duty, imbued with a brave and keen moral sense, without which all education is but a mockery and a sham. You may say that a system like this requires smaller schools and more teachers. But do you think this would be an unmitigated evil? Are you sure that in the great crowds of children which are gathered in our vast schoolhouses, crowds which oftentimes no man can number, the individualism of the child is not destroyed, his view of education chilled and darkened, his sensibility blunted, his self-respect lost as he counts himself but one among so many machines, all modelled alike and all apparently intended for the same purpose? I must confess that I have no admiration for these great populous structures, either on the score of economy or as

institutions out of which can be brought the vigor of thought, the breadth of culture, or the moral sensibility which should lie at the foundation of a good American education, whether for the pulpit or the rostrum, the shop, the counting room, or the field. And I doubt not that, whatever division of the scholars may hereafter be made, whatever changes in outfit and apparatus may be devised, a more compact, economical, safe, and convenient school building will mark the educational generations who come after us. For the health, the minds, the morals, and the safety of the children, let us have smaller school-houses, smaller schools, more teachers.

In conclusion, allow me to say that I have great respect for the academy and its system. As I compare the provisions it has made in times past and now makes to lead the minds of the young men of our land through the varied and changing landscape of general culture up to the point of special instruction for a definite object in life; the more I compare the academic system of training youth for a vigorous and manly step into the work of the world with the methods which have grown out of an ambition to perfect an imposing plan and perhaps out of the difficulties incident to a dense population, reluctant it may be to learn, the more I admire it as an American institution, capable of developing that mental and moral strength without which citizenship is a failure and the skill of the most expert is wasted and lost. I believe the academies have constantly and directly before them the object of preliminary American education, the preparatory culture which will fill our colleges and technical schools with strong capacity for special work. May not their principles, therefore, be ingrafted upon the system of common education in which you are all engaged, and new life be infused into the work to which you are devoted? To you who know so well the successes which inspire and the difficulties which surround the education of a free people for all their duties, I submit this question with confident belief that it will be properly solved.

Hon. JAMES A. GARFIELD, M. C., was introduced by President Wickersham, and, being called upon, spoke as follows:

Gentlemen, I am really not in a situation to say anything to this convention, for I do not know where you are in the course of your deliberations; but Dr. Loring has said some things that have awakened in me a very lively interest, and I will "rake after his cradling," as the harvesters would say. It is a matter of great gratification to me to meet gentlemen who are engaged in the work of education. I feel at home among teachers, and, I may say, I look back with more satisfaction upon my work as a teacher than upon any other work I have done. It gives me a pleasant home feeling to sit among you and revive old memories.

There is one thing to which I will venture to call your attention, and that is the great case, if I may speak as a lawyer, which is soon to be tried before the American people—the case of *Brains* vs. *Brick and Mortar*. That, in my judgment, is to be a notable trial, and until the cause is fully argued and rightly decided we shall have no end of trouble in our educational work. To insure its final and rightful settlement, the friends of our schools should unite to force the question to a hearing, and should go to the very bottom of the controversy. It has long been my opinion that we are all educated, whether children, men, or women, far more by personal influence than by books and the apparatus of schools. If I could be taken back into boyhood to-day, and had all the libraries and apparatus of a university, with ordinary routine professors, offered me on the one hand, and on the other a great, luminous, rich souled man, such as Dr. Hopkins was twenty years ago, in a tent in the woods alone, I should say give me Dr. Hopkins for my college course rather than any university with only routine professors. The privilege of sitting down before a great clear headed, large hearted man, and breathing the atmosphere of his life, and being drawn up to him and lifted up by him, and learning his methods of thinking and living, is in itself an enormous educating power. But America, I say, is running to brick and mortar. Colleges and universities are constantly receiving munificent gifts which the donors require to be

built into walls inscribed with their names; but the real college sits starving under the stately shadows. Our Smithsonian Institution over here was, for a long time, engaged in this struggle between brick and brains. One of the first things done by Congress was to saddle it with a huge brick building. Another impediment we fortunately got rid of, the great library of the institution, which devoured $5,000 a year of the income; and we are now struggling to get off our hands the great museum, which costs still more. Museums and libraries are necessary and valuable; but the central purpose of Smithson, to encourage original discovery, was in great measure thwarted by the mere accumulation of materials. I hope the day is not distant when the income of that beneficent institution will be so liberated that every American who has the requisite genius and force can find there the help required for original investigations.

And so, in our schools, let us put less money in great school-houses and more in the salaries of teachers. Smaller schools and more teachers, less machinery and more personal influence, will bring forth fruits higher and better than any we have yet seen.

In this connection I will refer to the tendency in our primary schools to overcrowd the children by giving them too many studies and thus rendering them superficial in all. The professors at West Point tell us that for more than forty years their course of examinations of cadets for admission has been substantially the same, and that the questions now asked in the several branches are the same as those propounded in the same branches forty years ago. Now these professors say that the percentage of failures to pass that preliminary examination has been increasing, especially of late, with alarming rapidity, and is very much greater than it was forty years ago. I understand that Professor Church says this fact does not arise from worse appointments, nor from lack of general information. Indeed, the young men who go there now have much more general culture than their earlier predecessors. Many of them, who have studied Latin, algebra, and physics, and other higher branches, utterly break down in spelling, penmanship, arithmetic, and grammar. In short, they know a little of many branches, but are thorough in none.

There is a limit of effort in a child; and if his culture is spread over too large a surface it will be thin everywhere. The ambition of our schools to do too much results in doing nothing well. *Non multa sed multum* is the old and safe rule. I believe, therefore, that the two great points which the educators of this country should aim at if they would succeed are, first, smaller schools and more teachers—remembering always that a teacher who is at all fit for his work is one who has the power of inspiring, who can pour his spirit into the darkness of the pupil's mind, and fill it with "sweetness and light;" secondly, they should cut off a large number of new studies which have been forced into the earlier course, and concentrate their efforts upon the old primary branches until these are thoroughly mastered.

Now, gentlemen, you who are conducting the educational affairs of this country cannot afford to rest under this charge of failure at West Point. You must answer by disproving the charge or removing the evil. Every conference among educators should be directed to these questions; and when they are settled you will have rendered one of the highest services that can be rendered to this country.

If I may refer to the national aspect of your profession, I will say we can never escape Macaulay's prophecy of the downfall of the Republic, unless we do it by the aid of the schoolmaster. Macaulay said that a government like ours must inevitably lead to anarchy; and I believe there is no answer to his prophecy unless the schoolmaster can give it. If we can fill the minds of all our children who are to be voters with intelligence which will fit them wisely to vote and fill them with the spirit of liberty, then will we have averted the fatal prophecy. But if, on the other hand, we allow our youth to grow up in ignorance, this Republic will end in disastrous failure. All the encouragement that the National Government can give, everything that States can do, all that good citizens everywhere can do, and most of all what the teacher

himself can do ought to be hailed as the deliverance of our country from the saddest of destinies.

Mr. PHILBRICK followed, commenting at some length on several points brought forward by the two preceding speakers, especially combating what Dr. Loring had advanced in favor of the old fashioned, ungraded academy and in opposition to the modern graded system of schools. He also assailed General Garfield's position that the standard of elementary education has not advanced, but has actually retrograded during the past thirty or forty years.

Mr. HANCOCK said that the standard of examination for entering West Point has been raised of late years by the addition of American history as one of the topics and that the examination is much more rigid. It is not a special aim of public schools to train candidates for the Military Academy; the schools try to teach children those things which will be of use everywhere and at all times. The progress of modern life and thought has been reflected in the public school curriculum in various ways. Must all this be abandoned, and must the schools return to the old academy studies? He could not see why teachers specially trained for the work of instruction are not as likely to possess broad minds and great souls as those who had been so lauded by the preceding speakers. On the contrary, he believed the modern graded school to be superior to the old academy in extent and methods of instruction.

Mr. HOLBROOK said that Dr. Loring's remarks had emphasized and even exaggerated defects in the existing public schools of which none are or have been more conscious than the public school teachers, and which are being mitigated and diminished by none more strenuously.

President WICKERSHAM pointed out the fact that candidates for West Point are usually selected by members of Congress without reference to their intellectual or other fitness. The late Hon. Thaddeus Stevens, of Pennsylvania, dissatisfied with the ill success of candidates selected by himself, with Dr. Wickersham's help, instituted competitive examinations for nomination. The highest boy at the first examination went to West Point and graduated No. 14 in his class; the first boy at the second examination graduated as No. 2 of his class; a third, selected in the same way, graduated at the head of his class. These boys had been trained in the free public graded schools of Lancaster County. The public school boys would do well enough at West Point if the politicians would give them a chance to get there.

Mr. DICKINSON next addressed the Department in defence of high schools. In alluding to the proper place and functions of the public high school in a school system, he quoted approvingly Professor Huxley's remark that "no system of public education is worthy the name unless it creates a great educational ladder with one end in the gutter and the other in the university." Mr. Dickinson continued as follows:

In some of the States pupils may pass from the high schools to the college or university with no other examination than that made at the close of the high school course.

Some think our high schools should form no part of a system of schools supported by the State, that the State should limit itself to the support of primary schools; the reasons given are —

1. That secondary instruction is not necessary to the well being of the State.

2. Only a small portion of the school population avails itself of the advantages of this instruction.

In answer to the first objection it may be said that the moral and social condition of a community of persons will be degraded in proportion as the products of their labor are inadequate to supply their spiritual and material wants. The history of all peoples shows that the products of labor to the laborer will be in proportion to the skill with which he labors. Labor will be skilled or unskilled in proportion to the high or low state of public instruction, directed first toward general culture, and secondly toward the arts which the laborer is to apply.

The truth of these statements accords with the experience of all nations in all times. A true and general culture of the people will exalt the state by laying the foundations for virtue and for skill in producing what will supply the wants of the body and gratify the taste. "I will thank any person," says Everett, "to tell why it is expedient and beneficial in a community to make public provision for teaching the elements of learning, and not expedient nor beneficial to make similar provision to aid the learner's progress toward the mastery of the most difficult branches of science and the choicest refinements of literature."

It is true that not all the pupils of the elementary schools will attend the high schools, but the latter are open alike to all who choose to avail themselves of their advantages. There will be more educated people in a town maintaining a high school than there would be without it, and the more educated people there are the greater will be the development of material resources, the more perfect the security of property and of persons, the higher the civilization, and the more complete the facilities for the unmolested enjoyment of all the objects of our natural rights.

A further argument in favor of maintaining high schools at the public expense may be made by showing, first, that they serve to give increased efficiency to the elementary schools below them. From the fact that the higher education is within the reach of *all*, pupils in the lower schools are stimulated to remain in them until they have learned all that is required to be known and have obtained all the discipline of mind required as a preparation for high school work. "Experience has proved," says Mr. Adams, of England, "that elementary education flourishes most where the provision for higher education is most ample. If the elementary schools of Germany are the best in the world, it is owing in a great measure to the fact that the higher schools are accessible to all classes. In England not only have the aims of the elementary schools been educationally low and narrow, but an impassable gulf has separated the people's schools from the higher schools of the country. In the United States the common schools have always produced the best results where the means of higher education have been the most plentiful."[1] The influence of one grade of schools upon another grade is from above downward, in so far as courses of study, amount of work done, and methods of teaching are concerned; it is from below upward just in proportion as that from above downward has succeeded in leading the elementary schools to prepare their pupils thoroughly for higher courses of study.

By the standards of admission to their classes which they establish, and the opportunities for a higher education which they offer, the high schools determine what the lower schools shall do, and they everywhere stimulate pupils to remain in the lower schools until what is required has been accomplished.

Again, the lower schools, on account of the age and attainments of their pupils, can only teach elementary knowledge, a knowledge of facts. If the high school is taken away, the opportunity to obtain free instruction in somewhat higher knowledge is taken away also. The elementary and the high school courses are parts of one whole. No system of schools would be complete without both.

[1] Free Schools of the United States, p. 211.

A knowledge of facts is of practical utility only as it lays the foundation for a knowledge of general principles. Every pupil in our public schools should be taught a method of thinking and acting. This is of more consequence than any other acquisition that can be made, for with a good method of study and the training acquired by the activity exerted in acquiring the method, the student after he leaves school can go on alone. If the high school is open to all, that, in connection with the lower schools, will have a tendency to preserve a republican equality which is always disturbed when the advantages of a higher education are limited to the few.

The existence of the high schools in towns enables the boys and girls to remain at home, as they should, under the care of judicious and faithful parents during that period of their lives when their characters are formed.

From what has been said it appears that we must preserve our high schools, and there will no danger arise to our private or public interests if they are made as efficient as possible. The academies of Massachusetts have done a grand work for the State, by educating a few who have been an honor and a blessing to the country. A few only of these noble institutions remain. In the place of them high schools have sprung up to form the missing grade in our now complete system of popular instruction, which has for its object the culture of the mind and its preparation for the high duties of an American citizen. By means of these schools we can now offer to every child born on our soil or coming to us from other lands the unrestricted advantages of an elementary and higher education.

At the conclusion of Mr. Dickinson's remarks the following resolution was presented by Mr. Hovey:

Resolved, That, in the opinion of the Department of Superintendence, the high school is a useful and necessary part of the public school system: it serves to promote efficiency in the schools of lower grades, whose pupils have hope of reaching the high school, and it enables the poor boy to prepare for the college or the university or the higher pursuits of men, and thus it becomes a conservator of republican equality and an enemy of social caste.

On motion, the resolution was laid over for the present.

The Department then adjourned to 7.30 P. M.

FOURTH SESSION—WEDNESDAY EVENING.

WASHINGTON, *December* 12, 1877.

The Department reassembled at 7.30 P. M.

Dr. J. D. RUNKLE, president of the Massachusetts Institute of Technology, then delivered an address on "The manual element in education." It is proposed, if circumstances will allow, to publish this paper, with the cuts necessary to elucidate it, in another pamphlet; it is therefore omitted from the present publication.

REPORTS OF COMMITTEES.

At the conclusion of Dr. Runkle's address, Mr. Newell, chairman of the executive committee, was called upon for the reports which had been prepared for submission to the Department. The executive committee, with a view to the most expeditious and satisfactory disposition of the business assigned it, was on its appointment divided into several subcommittees, to each of which was allotted some particular subject to be brought before the Department. The executive committee, its various subcommittees, and the committee on the Paris Exposition were composed as follows:

Executive committee.—J. Ormond Wilson, superintendent of schools, Washington, D. C.; James H. Smart, State superintendent of public instruction, Indianapolis, Ind.; and M. A. Newell, State superintendent of public instruction, Baltimore, Md.

Subcommittee on the United States Bureau of Education and the creation of a national educational museum.—John Hancock, superintendent of city schools, Dayton, Ohio; W. K. Pendleton, general superintendent of free schools, Wheeling, W. Va.; and James H. Smart, State superintendent of public instruction, Indianapolis, Ind.

Subcommittee on national aid to education.—J. B. Bowman, regent of Kentucky University, Lexington, Ky.; M. A. Newell, State superintendent of public instruction, Baltimore, Md.; and J. P. Wickersham, State superintendent of public instruction, Harrisburg, Pa.

Subcommittee on resolutions.—W. D. Henkle, editor National Teacher, Salem, Ohio; Gustavus J. Orr, State school commissioner, Atlanta, Ga.; H. S. Jones, superintendent of city schools, Erie, Pa.

Committee on the Paris Exposition.—J. P. Wickersham, State superintendent of public instruction, Harrisburg, Pa.; E. A. Apgar, State superintendent of public instruction, Trenton, N. J.; John Hancock, superintendent of city schools, Dayton, Ohio; Allen B. Lemmon, State superintendent of schools, Topeka, Kans.; Neil Gilmour, State superintendent of public instruction, Albany, N. Y.

The report submitted by the committee on the Paris Exposition and adopted by the Department has already been given. The other reports and resolutions presented by Mr. Newell, as amended and approved, were as follows:

NATIONAL EDUCATIONAL MUSEUM.

The subcommittee appointed to consider what action this body ought to take on the subject of a national educational museum and to report on the same, respectfully reports as follows:

1. Having inspected the valuable nucleus of a museum of education which has already been formed by the Bureau of Education, the committee would express its high appreciation of the judicious and successful efforts already made by the Commissioner of Education in securing contributions from foreign countries toward the realization of the idea of establishing a comprehensive museum of educational appliances and results here in our national capital.

2. They find that at the last meeting of the National Education Association a report on the subject was submitted admirably embodying in a condensed form a statement of (*a*) the origin and progress of such museums in foreign countries; (*b*) the purpose and utility of this new educational instrumentality; (*c*) an account of what has been done by the Bureau of Education in securing collections for such a museum as is contemplated. As this statement clearly presents the facts in the case, it is adopted and submitted by the committee as a part of its report.[1]

3. In view of the weighty considerations which readily occur to the practical educator in favor of the establishment of a museum of education in connection with and

[1] The report submitted at the last meeting of the National Education Association referred to in the text is as follows:

The educational value of comprehensive and classified collections of articles illustrating the resources and products of different countries and of the various industries of man, has been impressed upon the world by means of the brilliant series of world's fairs, or, as they may be definitely termed, "Exhibitions of the industries of all nations," which, beginning with that of Hyde Park, London, in 1851, culminated at Philadelphia in 1876. It is no longer necessary to support the utility of such collections by argument. The term "museum," which once meant in popular estimation little more than a musty collection of useless curiosities, has been infused with new life, and now means the most active educational influence known to modern civilization. Object teaching is found to have new significance and to be of world wide application.

Educationists early saw that this power is as applicable to the rapid dissemination

as supplementary to the library of the Bureau of Education (thus forming a central repository where all the facts relating to the progress and the various needs of public

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of a knowledge of the methods and appliances of the science of education as it is to that of the arts and manufactures, and the education collection begun in England by the Society of Arts and first exhibited in 1854 has become, partly by government aid and largely by individual contributions, a most important branch of the South Kensington Museum. It embraces a collection of over 20,000 volumes of educational books and many thousands of models and appliances for educational purposes; the list of these alone, brought down to the end of 1875, fills a volume of over 870 closely printed pages. Russia, Austria, and Italy have followed the example of England in establishing general educational museums; while most of the other European countries possess each several museums adapted to various branches of technical and industrial instruction.

On this continent, our neighbors of the Dominion of Canada have set the example of organizing such a collection, the value and utility of which were made evident to all by means of the remarkable educational exhibit displayed at Philadelphia by the province of Ontario.

While no governmental educational museum has ever yet been organized by the United States, the advisability of making such a collection has been realized and its creation urged.

The Exhibition at Philadelphia afforded an unprecedented opportunity for obtaining a quantity of material from the various countries of the world at the cost of little trouble and comparatively trifling expense. Unfortunately Congress made no appropriation in aid of this; in consequence, the opportunity could not be availed of in any adequate measure, and the educationists of the country were compelled to see a magnificent opportunity pass away comparatively unimproved. However, it was impossible but that much should remain. In the preparations made by the United States Commissioner of Education to secure statistical material bearing on the educational history of the past century, and in the material designed to represent the various systems and appliances of education in all its phases as presented in the United States, there was gathered in the Government Building the nucleus of a most interesting collection; most of this became the property of the Government, and needs but the natural growth and development which would follow its installation in a suitable place to become most valuable to all educators, while its value will be greatly enhanced by its conjunction with the rare and unique educational library already possessed by the United States Bureau of Education, which is being rapidly increased by means of the systematic exchange of educational publications conducted by the Commissioner with foreign officials.

Although unable to obtain anything by purchase, many gifts were made to the Commissioner by foreign individuals and governments, so that, in fact, a very large educational collection, comprising many thousands of separate articles, is now stored in Washington awaiting the action of Congress. This comprises, first, the most of the collections exhibited at Philadelphia by the United States Commissioner, viz, the statistical charts, maps, and diagrams prepared at the Bureau of Education expressly for the Exhibition, and which give a most clear and comprehensive view of the statistics of education, both public and private, in the United States; secondly, the models, publications, furniture, apparatus, and school appliances, &c., exhibited; thirdly, the views of colleges, universities, and schools, which formed such an attractive feature of the Exhibition; fourthly, the very valuable collection illustrating the progress of education among the Indians. In addition to these articles, the very complete and interesting educational exhibit made at the suggestion of the United States Commissioner of Education by the government of Japan has been presented to the Commissioner as a donation to the contemplated national educational museum. This collection is full of interest, first, as showing most clearly the habits, methods, and material of education in Japan before the contact with European civilization, and, secondly, the progress made up to 1876 in adopting the methods and appliances of European education. A complete set of mechanical and chemical apparatus manufactured by their own "school of arts and manufactures" fills one large case, while samples of school furniture now used and of all other school appliances bring into sharp contrast the old and the new.

A very fine collection of school material from the Ontario exhibit, valued at about eleven hundred dollars, which has been presented to the educational museum at Washington, fills a large room. Many valuable gifts from Austria, Germany, and Switzerland add to the interest of the collection, and show how readily, by a system of international exchange such as is carried on by the Smithsonian Institution, this educational museum at Washington could be developed into an institution where Americans could see for themselves all the new and improved educational appliances of other nations without being compelled, as now, to cross the sea. In a properly organized

education can be readily ascertained), and in view of the fact that a good beginning has already been made in laying the foundations of such a museum, the committee recommend the following resolution for adoption as the sense of this body of educational superintendents:

Resolved, That, as an important means of promoting the educational interests of the country, we regard it as the duty of Congress to make the necessary provision for the collection, installation, preservation, and care of a national museum of education in connection with the library of the Bureau of Education, and we express our earnest hope that this subject will be taken into consideration in determining the amount of the appropriation requisite to sustain and carry forward the legitimate operations of the Bureau.

UNITED STATES BUREAU OF EDUCATION.

Your subcommittee recommends the adoption of the following resolutions:

Resolved, That the Department of Superintendence express to Congress its profound conviction of the great value of the National Bureau of Education as an agency for collecting, collating, and diffusing that information which is a vital necessity to the welfare and progress of schools and school systems under a government of the people, for the people, and by the people.

Resolved, further, That we urge upon Congress the imperative necessity of making adequate and liberal pecuniary provision for the support of the Bureau, for suitable apartments for its accommodation, and for the preparation, publication, and distribution of its invaluable reports, Circulars of Information, and other documents constantly and unceasingly demanded by the great army of educational workers throughout our extended country.

NATIONAL AID TO EDUCATION.

The committee appointed to consider the subject of national aid to education beg leave to report the resolutions which were adopted at the last meeting of the National Education Association, held in Louisville, Ky., August 16, 1877, which are in substance as follows:

Resolved, That the association hereby reaffirms its cordial approval of the measures which have been pending before Congress for several years, or some proper modification of the same involving the general principles of said measures, providing for the permanent investment of the proceeds of the sales of the public lands annually accruing, as a national fund, the income from which shall be apportioned among the several States and Territories and the District of Columbia (for the first ten years on the basis of the illiteracy in the several States and Territories), under the supervision of the Bureau of Education, upon a proper basis of distribution, for the benefit of common schools, normal education, and for the more complete endowment and support of the industrial and technical colleges already established in the several States under the act of Congress approved July 2, 1862.

Resolved, That a committee of fifteen members of the association be appointed by the President thereof, to act in conjunction with the committees of similar bodies, and in coöperation with the Department of Superintendence at its winter meeting, with instructions to prepare a memorial to Congress embodying the views herein expressed and urging such legislation as shall be substantially in harmony with them.

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museum—wherein every department of material relating to education (whether concerning the proper building, lighting, heating, and ventilating of school rooms, and their furniture, or the best text books and apparatus) should be constantly on exhibition, arranged under intelligent supervision — it is easy to see that the educators of the country would possess the means of avoiding many mistakes and of readily keeping themselves informed of the best results of the efforts of educators throughout the world to extend, develop, and improve the all important science of education.

In view of the great necessity that is felt for some such central repository, where all the facts relating to the various needs of public education can be readily ascertained, and in view of the fact that so satisfactory a commencement has been already made toward founding a national educational museum as is shown by the collections of articles and of the educational library now in charge of the United States Commissioner of Education at Washington, it is the opinion of this committee that it is the duty of Congress to make suitable provision for the collection, preservation, and care of a national educational museum which shall meet the needs of the educators and of the public.

PUBLIC LANDS FOR THE DISTRICT OF COLUMBIA.

Your subcommittee recommends the adoption of the following resolution:

Resolved, That the national capital should be treated fairly by the National Government in the disposition of the public lands in aid of the public schools; and that the equilibrium between it and the other Territories and the States should be restored by proportional appropriations of said lands or their proceeds, or an equivalent in some other form.

The reports being accepted, motion was then made that the reports be adopted as read; which was agreed to.

Mr. HENDERSON here desired to offer the following substitute for a portion of the report favoring the donation of the proceeds of the sales of public lands to the States:

Whereas the object of the States in popular education is to fit the American citizen for the intelligent exercise of his franchises and the performance of his duties; and

Whereas the common schools of the country have proven themselves and promise to continue to be the great, efficient agents for the education of the masses, and there is but little if any difference of opinion as to the right and duty of a State to confer elementary training because of the demonstrated and admitted public value of intelligence; and

Whereas the fund will not be any too large to compass these desirable ends and many of the States greatly need assistance: Therefore,

Be it resolved, That the Department of Superintendence of the National Education Association heartily approves of the provisions of what is known as the Hoar educational bill now pending in the Federal Congress, which proposes to give the proceeds of the sale of public lands to the States for common school education and the support of normal schools, said distribution to be for the first ten years on the basis of illiteracy, and that we recommend and will use our influence to secure the passage of said bill.

Resolved, That a committee of fifteen be appointed to memorialize the Congress of the United States upon this subject.

Discussion followed, which was participated in by Messrs. Newell, Hancock, Orr, Pendleton, Wickersham, Tarbell, Bowman, Eaton, Barringer, Wilson, and others.

Mr. HANCOCK offered to the original report an amendment, accepted by the committee and embodied in the resolution as already printed, to the effect that the distribution should be made for the first ten years on the basis of illiteracy.

At this point an invitation was announced by General Browne, of the city school board, to the members of the Department to take supper with the president and members of the school board.

The Department then adjourned to meet at 12 o'clock the following day to conclude the business before it.

FIFTH SESSION—THURSDAY MORNING.

WASHINGTON, *December* 13, 1877.

The Department reassembled at 12.30 P. M.

Mr. SMART, from the committee on the best organization of a State school system, said the committee was not yet ready to make a report.

On motion of Mr. HANCOCK, the committee was continued, with Mr. Smart, of Indiana, as chairman and Dr. Orr added as a third member. It was directed to report at the general association at the next annual meeting.

The Department then resumed the consideration of the high school question.

THE HIGH SCHOOL QUESTION.

Mr. SMART, of Indiana, wished to divide the matter, and to consider, first, whether there should be such schools or not; then, what should be the kind and amount of instruction given in them; next, whether boys and girls should receive the same instruction in the same schools; and, finally, what the relation of the high school to superior instruction should be. He continued as follows:

These with many others are still unsolved problems. I shall, however, limit myself to a brief examination of the objections commonly urged against the high school by those who think that it ought not to exist. During the past few years I have, by letter and by personal interview, sought the opinions of prominent men in six different States upon this question. A few of them were men of national reputation, and most of them were men of influence in their respective localities. About 10 per cent. of the number were either presidents or professors of denominational schools. I exclude the opinions of all teachers of public schools and of all Roman Catholics. So far as I have been able I have also noted the position of the religious and secular press on this same point. Of this number of persons whose opinions I have obtained, 28 per cent. were decidedly opposed to the high school system, 19 per cent. were lukewarm or non-committal, and 53 per cent. were friendly to it. It was but a small minority, however, that warmly and intelligently defended it; most of them merely stated their opinions without assigning reasons therefor; but, from what I have learned from them and from what I have read, I should summarize the objections urged against the high schools as follows, viz:

1. The modern high school seeks to provide facilities for education which the common people do not need and which they ought not to have. Too much education makes a man restless and discontented with his inevitable lot, and makes him disinclined to labor. Man was born to obey; too much education makes him self-important, ambitious, unwilling to obey but desirous to command. Finally, too much education leads a man away from God and inclines him to a religion of reason.

2. Higher education is very desirable. The public high school teaches arithmetic well, but it does not and cannot teach religion. Religious instruction is as important as arithmetic. Intellectual training without religious education makes bad men. The high school draws young men and young women away from denominational schools, in which both arithmetic and religion can be taught; hence high schools ought not to be supported.

3. The public school is essentially a political institution; it is in no sense scholastic or ecclesiastic, and whenever it seeks merely to make men wiser or better or happier, it does not have in view the end for which public schools were established. The sole end and aim should be that the state may be preserved, and the minimum amount of education which will enable men to become good citizens is the maximum amount which the state may give; a knowledge of the primary branches is all that is essential to good citizenship, hence the state may furnish this and nothing more.

4. The state has the right to provide education just so far only as it compels education; or, in other words, it should provide no facilities which it cannot properly and does not compel all its children to use. All education beyond that which the state enforces upon all its children should be left entirely to associational enterprise.

5. The high school is limited to cities and towns, and is patronized by the few, and chiefly by those who are wealthy. It is unjust to levy a tax for its support upon the many who receive no benefit from it.

6. Our present school system has been enlarged and extended beyond the original purpose of its founders. The high school has been ingrafted upon the system contrary to the "original design;" hence it should be cut off.

I will indicate briefly the general course of argument I would take in answer to these various objections:

1. Is there too much education? Most of the men who say yes are either monarchists or oligarchists who believe in the divine right of the few to rule the many. Some of them are our religious fanatics, who do not believe in the freedom of the mind; and some of them are our so called utilitarians, who think that man was made to labor like a packhorse. It may be said that it is not worth while to consume time to speak of the absurd opinions of such persons; but they are not fools, and while their complaints show a want of information as to the real purpose of education, their objections have some foundation in the defects and weaknesses of our school system. We should give them a patient hearing in order that we may be able to remedy these defects. I think if we have as educators one fault which is more foolish than another, it is that we are unwilling to profit by the criticisms of men simply because we discover that they are not fully informed upon the school question. Is it not true that acquisition is with many of us still the measure of success? Do we yet fully realize that the habit of obedience to rightful authority is of more importance than the possession of knowledge? Do we yet understand that we must graduate most of our boys and girls into the practical industries of life rather than into the so called learned professions, and that ability to *use* knowledge is just as important as the possession of knowledge? Is it not true that we too often send out those who have haughty pride and are self sufficient rather than those who, having learned the way to truth, go out as humble seekers of it? And do we ourselves quite understand the difference between education, instruction, and information; that information is the brick of which the house may be made; that instruction is like the house, but without an inhabitant; and that education produces the builder and the living spirit that inhabits the house and makes it bright and beautiful? Knowledge is good, but knowledge and wisdom are commended of God, and both should be sought by men.

2. Another class of objectors is composed of those who are in favor of higher education, but who believe that boys and girls old enough to attend a high school ought to be trained in a school in which they will receive religious instruction. This class is composed chiefly of clergymen and of members of the faculties of denominational schools. They claim, and rightly too, that character is superior to scholarship; that goodness is an essential element of character, and that without suitable religious training a man is unfit to perform properly his part in life. They think that distinctive religious instruction should be commenced at the age of thirteen or fourteen, and that inasmuch as the public high school cannot give such religious training it ought not to be supported. It is even charged by many that the public schools are not performing their proper functions, and that much of the educated criminality and refined scoundrelism we see about us is directly traceable to the public schools. The New York Tribune, in a recent editorial, says:

Education of the intellect will not make men good. It will but change the nature of their criminality, and too often sharpen their wits to a point which will enable them to evade detection. There is a large and increasing body of thinkers who are of opinion that our common school system educates the intellect without enough consideration for the education of the heart, and who contend that thousands of boys and girls are annually turned out of these institutions who thus get no moral or religious instruction either at home or at school. We hope they are mistaken. But the frightful catalogue of all sorts of breaches of trust which our columns are daily presenting gives a terribly effective handle to those who hold to such theories.

Another influential journal, in quoting the Tribune, asks: "Is this the fault of our education?"

The public school professes to teach arithmetic, and it is confessed that it teaches it well. It does better than this; it teaches the child more than any other agency to respect rightful authority. This respect for law is one of the essential elements of good citizenship; it lies at the foundation of all successful family government and is one of the chief elements in religious training. The public school teaches a child to respect himself, to respect the rights of others, to honor his parents, and to obey the commandments of his Maker. Most of our teachers are God-fearing men and women, and they do seek, by precept and example, to teach a child those great moral truths that form the essence of religious training. But the public schools do not and need not attempt to teach denominational tenets. The schools cannot be called failures because they do not do this; they are not responsible for the fact that it is not done better than it is, neither are they to blame for the catalogue of breaches of trust which burdens our newspapers. Most of the petty crimes in our large cities are committed by those who do not attend the public schools, and the columns of the Tribune will show that men have to wait until they become presidents of insurance companies before they can gain the opportunity to steal millions.

While it is conceded that the public schools can do more than they now do, the home, the church, and the Sunday school have at least an equal responsibility in the matter. Nowhere in the world is there a more fit place to teach religion than in the home; the Sunday school and the church are special agencies created for this very purpose. The public school takes care of the child and teaches him for six hours in the day and for five days in the week, less than one-third of the time which he has left after giving him ample time for eating and sleeping. The church, the Sunday school, and the home may have the other two-thirds of his time, if they please, in which to teach him his religious obligations.

Now, if there be a responsibility for the fact that a child is not properly trained in his religious duties, it is quite clear to my mind that it must not be placed upon the shoulders of the schoolmaster. I believe that in this respect he performs his duty quite as successfully as the home and the Sunday school. I say in all earnestness that it is the failure of the home and of the Sunday school if failure there be.

The sad truth is that parents are not as much interested in the religious training of their children as they are in their mental training. They do not care as much for the Sunday school as they do for the day school. Tell a man that his child is quick to learn but that he is a young rascal, and he will smile; tell him that the child is dull at his books but that he is truthful and good, and he will frown. We make our day schools so attractive that the child will not stay away. Make your homes and your Sunday schools just as attractive. We employ the best teachers that money will buy; employ such for your Sunday school. We employ agencies and means that are sure to make the day school a success; the same agencies and means may be employed in the Sunday school. When parents will do their duty by the children at home; when they will go with their children to the Sunday school and see that they are there taught by experienced teachers; when they will spend as much care and time and money upon the Sunday school as upon the day school — there will be less need of charging any one with being responsible for a godless youth.

We have no quarrel with those who choose to patronize elementary denominational schools. But the charge cannot be sustained that the public high schools are at all responsible for the evils complained of.

3. The objection that a State has no legal right to support a high school has been answered over and over again. One of the ablest replies I have seen is the address delivered before the American Institute of Instruction at its last meeting by Hon. Judge Aldrich, to which I call your attention. It is not true that the school exists that the state may be perpetuated, but rather, the state exists that we may have schools. The grand purpose of life is not that we may be governed nor that we may govern, but that we may become happier, wiser, and better, and all associational enterprises should have this end in view. But how much intelligence is necessary to

enable a man to perform the functions of citizenship? The wisdom and intelligence that manifest themselves in a wise system of laws and in a perfected government must necessarily reside in the people. Good citizenship requires intelligence enough to make good laws, and patriotism enough to obey them and defend them when made. To obey is the duty of the subject; neither great wisdom nor a high degree of civilization is necessary to perform this duty. An ignorant man can be a good subject, thinking the opinions and executing the will of others, but he cannot properly exercise the functions of good citizenship. The highest form of citizenship necessitates the highest degree of intelligence. A limitation of intelligence is necessarily an abridgment of citizenship. Every voter of the State is a lawmaker. He expresses his thought through the ballot, and thus his intelligence manifests itself in the laws of the commonwealth. The truth is that independence in thinking on the part of the people is absolutely essential to the preservation of the Government. The more intelligence we put behind the ballot the more stable will our institutions become, and the more ignorance we suffer behind the ballot the sooner will they show signs of weakness and decay: the only hope of the country is in the intelligent ballot.

4. In reference to the claim that the State should provide no education that it does not compel all its children to take, I remark that those who advocate a system of compulsory attendance at school must take care lest they furnish strong arguments in favor of the limitations desired by these objectors. It seems to me that arguments in favor of a compulsory system can be turned against the high school system.

5. The argument that it is the rich few only who enjoy the advantages of the high school is one of the most persistent of all the objections urged. That the high school is a benefit to the entire community in which it is situated I shall not stop to prove. I affirm, however, that the claim that the high school is patronized by the wealthy and not by the poor is wholly without foundation; in fact, I have made inquiries in regard to several high schools, and in every case the majority of the patrons were of the poorer class. Here are the facts in reference to the Indianapolis High School. In the year 1875–'76 the whole number of patrons was 537. They paid taxes as follows:

	Number of patrons.	Per cent.
On nothing	130	24
On less than $500	122	22
On less than $1,000	19	3
On less than $5,000	107	20
On less than $10,000	72	13
On less than $20,000	49	9
On less than $100,000	30	6
On less than $200,000	3	1
On less than $300,000	4	1
On less than $400,000	1	1

Summarizing again we have:

	Number of patrons.	Per cent.
Total number taxed on less than $500	252	46
Total number taxed on less than $1,000	271	50
Total number taxed on less than $5,000	378	70
Total number taxed on less than $10,000	72	83
Total number taxed on more than $10,000	87	16

Of the whole number sixty were widows.

It may be said that this is an argument which the large taxpayers may turn against the high school. If so, let me say that the high school is one of the best agencies which we have by which property is protected. Every poor man knows that his boy has an opportunity to occupy a higher position in life than he occupies himself; he knows that there have been means provided by which his son may have an equal chance in the race of life with the son of his wealthy neighbor. This is the chief glory

f our country, and this feeling, more than anything else, makes a man a good citizen, ontented with his lot. He feels that the government does something for him and nore for his children. This makes him obedient to the laws and a patriotic defender f them when they are assailed. Take away the hope of the poor man that his child nay occupy a higher position than he occupies himself, and the rights of property vill not be as secure as they are to-day. The high school is one of the means by which the sons of the poor may climb up in the world. You may show that the vealthy pay for the high school. If they do, it is a good investment for them. A good igh school is a better protection to the security of rights in property in a city than a housand extra policeman would be.

6. The argument of "original design" is one that is used as a last resort. Suppose, or the sake of argument, that the founders of our school system did not contemplate a high school; is that any reason why men with more experience should be bound not o change and improve it? It seems to me that such an argument is absurd. There s scarcely a law on our statute books, scarcely a State constitution, that has not been evised, amended, and improved. Experience has shown that the Federal Constitution as originally constructed was not adequate to meet our wants. The whole world o-day, in its laws, in its social customs, in its achievements, and in all its institutions, presents a wonderful exhibition of departure from original design. Adherence to original design turns its back upon the perfecting future and blocks the wheels of human progress.

In the case commonly known as the Kalamazoo High School case three persons, taxpayers, asked for an injunction restraining the officer from collecting a tax in support of the high school, on the ground "that this district has no power to levy taxes for the support of high schools in which foreign and dead languages shall be taught, because the special legislation had for its benefit in 1859 was invalid for lack of compliance with the constitution in the forms of enactment, and it never adopted the general law" (Compilation of the Laws, § 3742); "though, ever since that law was enacted," Chief Justice Cooley added, "the district has sustained such a school, and proceeded on the apparent assumption that the statutes were constitutional enactments and had been complied with." He continued:

After this lapse of time we must decline to consider this objection. The district existed *de facto*, and we suppose *de jure*, when the legislation of 1859 was had, and since then it has assumed to possess all the franchises which are now brought in question; and there has been a steady concurrence of action on the part of its people in the election of officers, the levy of large taxes, and the employment of teachers for the support of a high school. The State has acquiesced in this assumption, and it has never been questioned until after thirteen years, when three individual taxpayers, out of some thousands, instituted a suit on their behalf, to which the public authorities give no countenance, and ask us to annul the franchises. To require a municipal corporation, after so long an acquiescence, to defend in a merely private suit the regularity not only of its own action but of the legislation that permitted it, could not be justified by the principles of law, much less of public policy.

I quote the opinion of Chief Justice Cooley in order to prove that an institution not directly prohibited by the constitution and existing under the forms of law, which has been generally acquiesced in by the people, ought not to be abolished simply because the constitution does not distinctly provide for its existence.

It can be shown, however, that the fathers builded wisely, and that the present system in its scope at least is not a departure from original design. I suppose that the original design of an institution may be determined by reference to the fundamental law on which it rests. The foundation upon which our school system is laid is the State constitution. Massachusetts, the oldest of the New England colonies, as early as 1636 gave voice to an "original design" in the establishment of a school of high degree at Cambridge, and in her first State constitution (chapter five, section one) declared that, "Whereas our wise and pious ancestors, so early as the year 1636, laid the foundation of Harvard College, in which university many persons of great eminence have by the blessing of God been initiated in those arts and sciences which qualified them for public employments, both in church and state; and whereas the encouragement of

arts and sciences, and all good literature, tends to the honor of God, the advantage of the Christian religion, and the great benefit of this and the other United States of America, it is declared," &c. Chapter five, section two, declares that "it shall be the duty of the legislatures and magistrates in all future periods of this Commonwealth to cherish the interests of literature and the sciences, and all *seminaries* of them; especially the university at Cambridge, public schools and grammar schools in the towns," &c.

In the first constitution of Maine, adopted in 1819, the "original design" is found in these words: "And it shall further be their duty [the legislature's] to encourage and suitably endow, from time to time, as the circumstances of the people may authorize, all academies, colleges, and seminaries of learning within the State."

The first constitution of Indiana, adopted in 1816, among other things, provides as follows, viz:

> Knowledge and learning generally diffused through a community being essential to the preservation of a free government, and spreading the opportunities and advantages of education through the various parts of the country being highly conducive to this end, * * * it shall be the duty of the general assembly, as soon as circumstances will permit, to provide by law for a general system of education, ascending in a regular gradation from township schools to a State university, wherein tuition shall be gratis, and equally open to all.

These provisions were the result of design and not of accident. The act of the Territorial Legislature, September 17, 1807, incorporating Vincennes University, and the act of the State legislature of 1820, incorporating the State university, together with the discussions in the bodies which passed these acts, prove that the spirit of the people accorded with that manifested by the framers of our first constitution.

The "original design" in regard to education in Michigan is plainly shown by her constitution and laws. The very first act of her Territorial Legislature was to incorporate a university and a high school system. By an act of 1827, the system was supplemented by the establishment of common schools. Referring to this act of 1827, the supreme court of Michigan says:

> This act is worthy of attention, as indicating what was understood at that day by the common schools which were proposed to be established. It provides that every township containing fifty families shall have a school for six months in each year, in which the instruction shall embrace reading, writing, the English and French languages, arithmetic, orthography, and decent behavior; and every township containing one hundred families shall have a school for twelve months in the year, and townships numbering two hundred families shall be provided with a grammar school master, of good morals, well instructed in the Latin, French, and English languages, and shall, in addition, be provided with a teacher to instruct in the English language. The townships were required, under a heavy penalty, to be levied in case of default on the inhabitants generally, to maintain the schools so provided for.—(Code of 1827, p. 448; Territorial Laws, vol. 2, p. 472.)

This act leaves no room for doubt that grammar schools were understood in the same sense as in England and the Eastern States, and were intended to be schools where instruction should be given in the classics as well as in the higher branches of learning not usually taught in the schools of lowest grade. How, then, is it possible to say that the term common schools, as used in our legislation, has a definite meaning which limits it to the ordinary district schools, and that, consequently, taxation for their benefit cannot be made to embrace schools supported by village and city districts in which a higher grade of learning is imparted?

An inspection of the first constitution of Michigan leaves no doubt that its framers designed that the State should support high schools with a liberal hand.

The framers of the earlier constitutions of most of the Northern States held the same broad views, and so expressed them in the instruments which they made. The "original design" of the founders of our school systems did not contemplate a limitation to the merest rudiments of knowledge. They declared with singular unanimity that learning and wisdom generally diffused among the masses are essential to liberty, and that it is the duty of the State to forever establish and encourage schools, colleges, seminaries of learning, &c., for the education of the people. A limitation of public education to a few primary branches would be a departure from original design and not an adherence to it.

Rev. Dr. PATTON, president of Howard University, said that until recently he had been a citizen of Chicago; he thought highly of much of the instruction given in public high schools, but he was quite sure that there had been manifested more and more opposition to them for the last ten years, and this partly for religious and partly for literary reasons. The old fashioned academy sent many pupils to the college; the modern high school sends in comparison very few; many high schools teach Latin only, more do not teach any ancient language at all; even when they do so, their pupils seem to become tinctured with the notion that they do not need to go higher in the literary course, so that they neglect the college and enter schools of law and medicine. It has become a misnomer to call these "learned professions." Again, most of the colleges have denominational connections or proclivities; they need preparatory schools which will fit boys for collegiate studies; the public high schools failing to do this, induce the patrons and advocates of collegiate education to dread them, and to desire academies which will do this preparatory work.

Mr. BARRINGER thought that much of the opposition alluded to arises from the errors of those who manage high schools. Their courses of study often seem to result in nothing; their advocates sometimes push their theories too far. If, as he understood a gentleman from Boston to say last night, candidates for admission to colleges in that part of the country are more numerous than ever before, and high schools are also increasing in number and in scholars while academies are declining and dying out, where do the candidates for college come from, if not from the high schools? He continued by saying that in his opinion the popular mind is not yet ready to say that free public education should go further than the high school grade. Some people complain that high schools as conducted make their pupils discontented with mechanical and industrial pursuits, and the objection is often just; but the fault lies with parents, trustees, and the public quite as much as with the teachers or the school. Others object to the high schools because religion is not taught in them; but they surely could teach righteousness, truth in speech, integrity in deed, industry in work, purity in life. The school could inculcate these by every detail of its instruction and management, the teachers by every word and action of their lives.

Mr. NEWELL agreed with the last speaker that our public schools should make their pupils upright and conscientious workers in whatever situation in life their duty should call them. But he could not agree with the statement that public free education should stop at the high school. He did not wish to praise his own State, but he would say that the other States should imitate Maryland in her policy; the three colleges supported by her are open highways for poor as well as rich pupils. But his State does even more than this; if a youth of talent and promise is too poor to pay his expenses at college, the State

pays for his lodging and food and books; Maryland is now supporting fifty-five such students.

After further remarks by Mr. Sheldon, Dr. Hancock, Dr. Philbrick, and General Eaton, the subject was referred to the next meeting of the National Education Association.

The secretary read a letter addressed to the convention by Mr. G. H. La Fetra, of the General Post-Office, in which the writer urged the adoption of a phonetic system of spelling English words.

The secretary read a memorial from Dr. Edwin Leigh, of New York City, reciting the very small quantity of instruction received by at least half the school children in our great cities because of their early withdrawal from the schools, and urging that none of the little time so expended by them in school be wasted by injudicious methods of teaching. The following is an extract from this paper:

Children have *rights*, as well as men and women; and certainly among their inalienable rights, in this free and enlightened country, is the right to have secured to them at least as much of a primary education as includes the ability to read simple reading with sufficient ease and understanding of the same to make them actual readers of ordinary books and newspapers. The undersigned would therefore ask of you—

1. To use your influence to secure the extension throughout the United States of efficiently executed laws like those which have done something for the children of Massachusetts. If our free Government cannot give its children all the rights and privileges which the powerful military organization of Prussia secures for its children, yet it may do more than it has done: it may assert the rights of children in its fundamental law, and it may pass and execute laws to secure to them their rights.

2. But if we cannot immediately secure such laws and efficient execution of them, let us, at least, employ improved and more effective methods for teaching children during the very first years of their primary instruction, that the children who enjoy only these may derive the greatest possible benefit from them. In view of the facts already referred to, should not our course and method of study be shaped with special reference to the wants of this neglected half of our children, that we may use to the best advantage for their progress the little time during which we have them under our care?

Dr. Leigh's memorial gave remarkable instances, from several places, of this improved method and its results:

1. The lowest classes in the St. Louis public schools do the work in one year which used to consume two and a half years.

2. Miss Stickney, principal of the Boston Training School, has carried her pupils through the Second Reader in the same time that before was used in mastering the First Reader. Her example has been followed by other teachers, and so successfully that Superintendent Philbrick will recommend that the method be made obligatory for all the city schools. Similar results have been reached in every school where a trial has been made. The memorial continues as follows:

But the first thing to be done is to ascertain the extent and character of this evil, this deficient education of so many of our public school children. "They that be whole need not a physician, but they that are sick." When we know that we are sick and how sick we are, we are in a fair way to seek and find and apply a sufficient remedy. The undersigned would therefore ask of you to devise and adopt some simple

practical, comprehensive, and uniform method of gathering up and combining the facts and statistics on this subject.

It may be practicable, in connection with school records and school reports, to ascertain—

1. How many (on some one or more specified days in the year) are in the alphabet class, how many are in the primer, how many have finished a primer and are in a second book, how many are in a third book, and so on.

2. How many have been in school less than one year, how many one year and under two, how many two years and under three, &c.

Or it may be practicable, in connection with the school census, to ascertain, with regard to children of the school ages who have quit going to school—

1. How many only read, while in school, in a primer; how many finished a primer and were in a second book; how many read through a second book and were in a third book, &c.

2. How many attended school less than a year, how many attended one year and under two, how many attended two years and under three, &c.

It is believed that, if these or any other such classes of facts on this point be systematically collected and brought together and made known to the public, it will lead to the adoption of some more efficient means to keep the children in school and do the best for them while we have them.

The Department adopted resolutions thanking President Hayes for his expressions in favor of education in his message to Congress, and the trustees of the public schools of Washington, the officers of the First Congregational Church, the newspapers of the city, and the proprietors of the Ebbitt House for various kindnesses.

It was also determined that another meeting of like character should be called at some time during the winter of 1878–'79.

The Department then adjourned sine die.

APPENDIX B.

PROCEEDINGS OF THE CONFERENCE OF THE PRESIDENTS AND OTHER DELEGATES OF THE STATE UNIVERSITIES AND STATE COLLEGES, HELD AT COLUMBUS, OHIO, DECEMBER 27 AND 28, 1877.

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CONFERENCE

OF

COLLEGE PRESIDENTS AND DELEGATES.

FIRST SESSION—THURSDAY MORNING.

COLUMBUS, OHIO, *December* 27, 1877.

The conference of the presidents and other delegates of the State universities and colleges, held at Columbus, Ohio, December 27 and 28, 1877, arose out of a correspondence, undertaken by direction of the trustees of the Illinois Industrial University, in regard to the appropriate academic and professional degrees to be conferred upon the graduates of the several courses of study—classical, scientific, and technical—taught in the State colleges and universities. Eighteen institutions having pledged themselves to be represented, the call was issued.

The conference assembled in the portrait room of the Ohio State Capitol, Thursday, December 27, at 9 A. M., and was called to order by President Edward Orton, of the Ohio Agricultural and Mechanical College.

On motion of President SLAGLE, of the Iowa State University, a committee consisting of President Runkle, of the Massachusetts Institute of Technology, Vice President McKee, of the Pennsylvania Agricultural College, and Prof. G. W. Atherton, of Rutgers College, New Jersey, was appointed to nominate permanent officers. The committee reported the following names:

For president, J. M. Gregory, president of the Illinois Industrial University.

For vice president, S. S. Laws, president of the Missouri State University.

For secretary, Prof. J. R. Smith, of the Ohio Mechanical and Agricultural College.

These gentlemen were unanimously elected, and Dr. Gregory accepted the chair with a short speech expressive of his sense of the interest of the occasion.

Professor ATHERTON moved that, in order that the meeting might be properly understood and its true character maintained, it should be termed a conference and not a convention. This motion was concurred in.

Presidents Orton and Slagle and Professor Atherton were appointed a permanent committee on the business of the session.

While the committee was absent, President GREGORY stated briefly the origin and purposes of the conference and the interest which had been expressed in it by the presidents of the several State institutions throughout the country. The topics on the printed programme presented

had been suggested by different presidents in several sections of the Union as of personal or local interest to them.

The business committee recommended that the programme be followed in the first two topics, and that throughout the conference the several topics, after discussion, be referred each to a special committee with instructions to report to the conference by resolution or otherwise. The report was adopted.

COLLEGIATE DEGREES.

President GREGORY, calling Vice President Laws to the chair, then proceeded, according to programme, to present his paper on the subject of college degrees. The following abridgment includes its most important points.

In discussing the subject of college degrees three principal questions confront us:

1. Ought our American colleges to continue the use of degrees?
2. What degrees, if any, ought to be granted?
3. On what conditions ought these degrees to be given?

1. After stating some of the objections to degrees, the paper showed that their use is so interwoven with our entire system of higher education that no college can easily dispense with them. The writer represents an institution in which the experiment has been tried, and the result has been unsatisfactory. It was our alumni themselves who, finding themselves embarrassed by their lack of the usual symbol of graduation and convinced that the university was suffering loss in students and in public respect from this cause, petitioned the State Legislature to give to the trustees authority to bestow the usual and appropriate degrees.

Counting that the usage must go on, we need only consult for the means to render these degrees more truly significant and trustworthy as symbols of scholarship and as evidences of literary or scientific attainments. The present usage is often confused and unintelligible, and sometimes dishonorable and degrading. We need not enumerate the abuses: they are unfortunately too well known already, and to no one better than to our college faculties.

Propositions for reform have not been wanting. It has been proposed to take away from all colleges the power to grant degrees, and to lodge it in a State board of regents or examiners, to whom all candidates must apply. This would virtually make all the colleges of a State parts of a State university. This plan would doubtless cure many of the evils from which we are suffering, and might afford many special advantages; but I fear the time is far distant when the smaller and poorer institutions will consent to surrender a privilege so profitable, if not so necessary, to their existence.

2. The second question, that which touches the number and kinds of degrees to be granted, is more difficult. In the Middle Ages, when education was much briefer in its courses and much narrower in its aims;

when the old trivium and quadrivium constituted the studies of an entire university, and the chief use of education was to prepare divinity students for their work—the simple degrees of bachelor of arts and master of arts, and the doctorates of divinity, philosophy, and of laws, filled all the requirements. For centuries these, with some modifications of meaning to meet new studies, covered the whole field of the higher education. But with the modern enlargement of science and learning, and with the rise of new courses of study to prepare for new professions and avocations, our leading colleges have been driven to the introduction of new symbols to represent their work and reward their graduates. These new degrees have been chosen without concert or harmony, and their use is accordingly confused and irregular. For the sake of the great public concerned, and for the sake of the cause of learning itself, this confusion ought if possible to be arrested and a harmony of usage introduced.

Our college and university courses of studies are now of two classes, scholastic or educational, and technical or professional. We may assume that the scholastic or proper educational courses embrace (1) the old classical course, with its several modifications; (2) the scientific course, the staple studies of which are the natural sciences, the mathematics, and some studies in literature, history, and philosophy; and (3) a medium course, variously constituted, but made up chiefly of extended studies in the English and other modern languages and literatures, including often the Latin also and some due proportion of history, science, and philosophy. This last course already shows signs of parting into two distinct courses, each of which looks more or less directly toward a field of practical life. The first course coming from this cleavage includes a large proportion of linguistic studies, especially a full and critical study of the English literature, such as that taught by Professor March and already in use at several leading institutions. It includes also a fuller and more critical and effective study of the modern languages, for practical use, and a due measure of mathematics, science, history, and philosophy. This course is especially valuable to the student who seeks to prepare himself for the work of the press, as editor, publisher, or author. The second course already appearing in some institutions from the cleavage is made up in a large measure of social science studies, history, political philosophy, constitutional and international law, logic, and metaphysics, without omitting languages, mathematics, and science. This seems adapted to the wants of the future lawyer and statesman.

It happens that the four degrees which are most appropriate to these four courses of study have already come into use, though not always with the same application and significance. These degrees are B. A., bachelor of arts; B. S., bachelor of sciences; B. L., bachelor of letters; and PH. B., bachelor of philosophy. The PH. B. is in use in Yale and in several other prominent colleges, and the B. L. in Cornell and in the State universities of Wisconsin and Missouri.

These four degrees would cover the strictly educational courses thus far known in the better American colleges. But besides these courses there are several technical courses for which some appropriate symbol seems to be demanded. Leaving out of sight the older studies of law, medicine, and theology, we have civil, mining, and mechanical engineering, architecture, agriculture, and chemistry. The usage most favored at present gives to all these technical and scientific courses the simple B. S., and reserves the full degrees of civil engineer, mining engineer, &c., to be conferred as a master's degree, after additional professional studies and practice.

3. The third and the most difficult of the questions to be met in this matter of degrees is that of the conditions on which they ought to be granted. The usage is diverse, and it will be difficult to establish and maintain any uniform standard. Similarity of courses is by no means a sure guarantee of equality of attainments: to make a course of study on paper is as easy as it is insignificant; some better test is needed than a pretentious catalogue. It is at this point that the State universities and colleges may work together for a great public good. If they can agree upon some uniform standard, it will go far toward the establishment of a general standard for all of the respectable colleges of the country.

There are two distinct bases on which college degrees may be granted: (1) the satisfactory completion of some prescribed course of studies, and (2) a final examination and the ascertainment of prescribed attainments of knowledge. The latter of these is in use in European universities; in America, college degrees represent uniformly the completion of prescribed courses of studies. It may be doubted whether any change in this respect would be accepted.

In fixing a general standard, it may be assumed, in the first place, that some amount of preparatory study will be required between the common school studies and the college studies proper. These preparatory studies may vary in kind, but should be equal to the work of two years in amount. It may also be assumed that the college studies shall be equal to the work of four academic years, and shall contain some due amount of linguistic studies, a fair proportion of mathematics, and some studies in history, science, and philosophy. Beyond this nothing is fixed, unless it be that the degree of A. B. shall be given only for the so called classical course in the two ancient languages. In making up its several courses each institution must be left free to consult its own limiting conditions, internal and external. What is essential is equivalency, not identity, of studies.

The reading of the paper was followed by a discussion.

President C. L. C. MINOR, of Virginia Agricultural College, said he desired to hear the question discussed, though his institution was not as yet interested in it.

Professor ATHERTON [illegible] at Rutgers College the two degrees of *A. B. and B. S.* are in [illegible] ren as an honorary degree. The

master's degree is given in course, but it is soon to be restricted to those who earn it by study after graduation. He believed the use of degrees to be so interwoven with our educational system that they cannot be dispensed with, and their utility is not to be questioned: they have a strong influence in holding students to a full course of studies.

President RUNKLE stated that at the Massachusetts Institute of Technology the degree of B. S. is given for each of the technical courses, but in the diploma the name of the special school is added after the B. S. The degree of C. E., civil engineer, &c., is given only after graduate study and professional practice. The Institute gives the two degrees of A. B. and B. S. He fully concurred in the utility of degrees.

Professor MCKEE, of Pennsylvania Agricultural College, said that his college confers the degrees of A. B. and B. S. He condemned the practice of giving honorary degrees. His institution had steadily refused to grant such degrees, though often importuned for them.

President LAWS affirmed strongly the propriety and value of degrees. He said they should always represent real attainment and should be earned by genuine work. He said that the University of Missouri uses all the degrees named in the paper, B. A., B. S., PH. B., and B. L. The use of the last two is not well defined. He thought that mathematics should constitute the backbone of the course for the B. S. The complimentary degrees of D. D. and LL. D. simply mean nothing. The master's degree once meant something, but when given, as now, in course, it also means nothing. Degrees should be bestowed not as decorations, but for acquisition.

The conference then adjourned for dinner. Assembling again at 2 P. M., the subject was resumed.

President ORTON, of Ohio, stated that the studies of the Ohio Agricultural and Mechanical College are divided into three schools: school of natural history, school of the exact sciences, and school of letters. The degrees of B. S., A. B., and C. E. are granted solely as indices of the completion of a six years' course, two of these years being preparatory and common to the three schools. The sciences have the lion's share in this two years' course, the literary studies being confined to one term. The best teaching talent of the college is employed on this course.

The subject was now referred to a special committee consisting of Messrs. Atherton, Minor, and Orton.

SCIENTIFIC STUDIES AND COURSES OF STUDY.

This topic was opened by a short extemporary address by Dr. J. D. Runkle, of Massachusetts.

President LAWS said that mankind teaches what is known. Formerly only the languages, mathematics, and logic were known, and so these were taught. The sciences have become well known only of late years, and now must be taught. He declared that there is no antagonism; the languages and mathematics must still hold a chief place among disciplinary studies.

President MINOR referred to the fact that from the law of impenetrability, if new studies go in, some old ones must go out.

Professor N. S. TOWNSEND, of Ohio, said that he did not dispute the value of the study of the languages, but he wished to affirm the equal value of the natural sciences.

President SLAGLE, of Iowa, asked how the views presented agree with the statement that the aim of education is to produce thoroughly disciplined, well balanced men. Is this consistent with the claim of equality for very different courses of study?

President GREGORY replied that at the dinner table he had noticed each one called for different meat. Some took roast beef, some turkey, some mutton, and so on; but all had been nourished and invigorated. There is no ideal study best for all persons. Our mental appetites and constitutions differ as much as our physical. And, after all, as has been said here, the method of teaching a study has quite as much to do with its disciplinary effect as the nature of the study itself. He had known the ancient languages and the mathematics taught in such a miserable way that they were nearly useless. He did not think it quite true that men always teach what they know: there is fashion in studies as in everything else. The real question before us is how to make place for the scientific studies. All men recognize their value and importance as knowledge, and their vital connection with modern arts and public well being. No one seriously denies their right to a place in our college curricula. If admitted, they must necessarily crowd out some part of the old studies, and this makes it necessary that they be so taught as to have their full disciplinary effect. To do this their elements must be taught in our common schools, so that their mere alphabet shall not detain the college student. Furthermore, they must be taught in accordance with their own laws. They are properly sciences of observation, and must be studied by means of observation. In studying language in a book, we have before us the real language studied. So with mathematics, the real numbers and forms to be studied are in the book; but the real botany and chemistry and zoölogy cannot be put in a book. If studied as they exist in nature, they will compel as active exercise of original, discriminating judgment as does a lesson in Latin. No one proposes to dismiss language studies from the college curriculum; their value is too obvious to all scholars to call for debate. But let them be taught by such methods and confined to such limits as will give us their best effects, and we shall have abundance of time for the new scientific studies desired. And it has not yet been fully tested what disciplinary power there is in the English and other modern languages. The efforts of Professor March and others have shown us that the critical study of the English language and literature can produce a culture as fine as that ordinarily given by the Latin. In the Illinois Industrial University, the study of English literature extends through a term of three years. The study of specified authors of the several periods of our

literature is made as critical as the study of Latin authors in the classical course, and if the ability of the students to write good essays is taken as the test then this study is not inferior to that of the ancient languages as a means of fine culture and mental development.

Professor ATHERTON concurred in the views presented by the address of President Runkle, and emphasized still more the importance of right methods in teaching.

The debate was further continued by President Orton and others; but, unfortunately, no sketch of their remarks was secured. The topic was referred to a committee on final report, consisting of President Runkle, Professor McKee, and Professor Townsend.

President ORTON, from the business committee, reported several changes in the programme for to-day and to-morrow, and recommended that the session of Friday morning be held at the Ohio Agricultural and Mechanical College. The report was agreed to. Adjourned till 7 P. M.

SECOND SESSION—THURSDAY EVENING.

COLUMBUS, OHIO, *December* 27, 1877.

The meeting was called to order at 7.30 P. M., and, the secretary being absent, Professor McFarland, of the Ohio Agricultural and Mechanical College, was appointed secretary pro tempore.

The regular business of the evening was proceeded with according to programme.

President ORTON read the "Report on the military system in State colleges: its enforcement or repeal." He said:

I shall make my paper somewhat narrower in scope than the title as stated in the programme would seem to demand, and shall consider the subject of military instruction and drill in such State colleges particularly as are founded upon the congressional land grant of 1862. The general argument applies, of course, to all grades of State colleges, but between the group of them that I have already named and others there is this well marked difference: the latter can discuss the subject at their pleasure, and take such action on it as seems wisest; the former are expressly required, by the terms of the law to which they owe their origin, to include military tactics in their courses of instruction. They can discuss the desirability, the practicability, the extent of such instruction, but this instruction, in some shape or other, they are bound to supply. It is open to them certainly to seek the repeal of the clause which now holds them to this duty, and it is also their privilege to urge the General Government to make a larger provision for it than has thus far been made.

I take it that there are some who regret the presence of this provision in the act of 1862. It is argued that this requirement was made at an exceptional period in our history, when the country was convulsed with civil war, and when a new and inordinate value was attached to military knowledge and training; that since the days of peace have returned our swords should be beaten into ploughshares and our spears into pruning hooks and our sons required to learn the ways of war no more.

Those who hold this view are likely to yield but a perfunctory obedience to the mandatory provision of the law; and, in view of the fact that no measure of time spent or knowledge gained needs to be returned, it is, of course, possible to reduce the whole demand to an impalpable and unoppressive minimum. The provision then remains an offence rather than a burden.

In opposition to this dissatisfaction and dissent, I wish to urge very briefly that the military requirement was wisely introduced into the organic law, and that military drill constitutes a permanently valuable feature in our processes of education. I believe that our duty and interest lead us to seek the enforcement, the reënforcement, if necessary, of the military system, as it is now laid down, rather than its reduction or repeal. I remark, then, first, that it is *desirable* that military instruction should be given in these institutions.

The knowledge and the practice of the military art are essential to the maintenance of a state. Thirty years ago, in my college days, I read with youthful enthusiasm the prize essays of the American Peace Society. The monstrous character of war, the dreadful miseries it causes, its utter uselessness, were painted in such startling colors, and yet with such apparent truthfulness, that I innocently thought the world must be convinced and converted, and that it would be given to my generation, perhaps, to see the last battle flag furled, and to hear the last throb of the war drum; but the remorseless logic of events has swept these dreams away. With Sebastopol, Sadowa, Sedan, and Plevna to take their places in history during the interval; nay, more, with blood to the horses' bridles in our own valleys, I have forgotten the prize essays; and I see that this selfish, unjust, tyrannical human nature of ours cannot yet be hushed by the voice of such a charmer, charm he never so wisely.

The railroad riots of last July rudely awoke the thoughtful people of the great Middle States from their dreams of security. A change of great moment has been in progress in the country during the last few decades. From a homogeneous agricultural community, with its assured supplies and established order, we have seen the growth on every hand of great manufacturing centres, with their ever increasing armies of improvident laborers. When times are prosperous, all live lavishly; but when fortune turns her wheel, as she is sure to do, then envy and want threaten the very existence of society. We shall gravely err if we consider this outburst of midsummer madness in the light of an accident, the conditions for which may never again occur. It is rather the first outbreak of a deep seated disease of the body politic, which may yet make the whole head sick and the whole heart faint. The remedy—is there *any* remedy for the wickedness and want of a great city?—can never be found in grapeshot or minie bullet; but *protection* can come from nothing else.

Who shall give this protection? Many find an easy answer to this question in a large and efficient standing army. For myself, I fear such a protector as much as I do the foe. Such an army would be largely drawn from the very ranks against which its arms must be raised. *The interests that are imperilled must defend themselves.* The wealth of the community, which stands in a general way for the forethought, the energy, the wise self-denial of the present and past generations, the culture, the moral force of the community, must take care of themselves, and I am not sure that in this war there is any discharge. I am not sure that the public order can be maintained by mercenaries: the hireling will flee when he sees the wolf coming.

Nothing is of more moment to the State than that its educated class should be qualified to be its actual leaders in such crises. The fact that military organization exists in the community, or is easily possible, that there is enough military knowledge in it to set in order its defences, these facts in themselves constitute no mean element in the maintenance of the public safety.

I urge, then, that it is desirable that these State institutions should impart a measure of military knowledge and training, because of the value of this knowledge to the State, a value that can be clearly recognized at the present time and which it is certain will not grow less. I add that such instruction is desirable on other grounds, because of certain incidental advantages that it brings. I refer, in the first place, to the physical training that it gives.

I believe that our systems of college and university training are grievously at fault in this respect: that they make no orderly or adequate provision, and generally no provision at all, for physical training at precisely the time in life when such training is of the most moment. I will not digress to discuss this very important question, but

I observe that the military drill which I advocate, though far from being a complete system of physical training, makes no mean contribution to this department. All there is of it is profitable. The posture, the movements, the bearing and gait it prescribes, are all helpful to a high degree. Nothing serves more effectually than this to break "the awkward shackles of the plowboy's walk." The transformations that a month of efficient training works in this respect are remarkable.

Again, I value military drill in college for the lessons that it gives in the matter of obedience to authority. I am sure that you will all agree with me when I say that such a lesson is well worth the learning, from whatever source it comes. The youth of the country, or, if without invidious distinction I may discriminate between the different sections, the youth of the West, are in great danger of never learning the needful lesson of prompt obedience to constituted authority. But prompt and unquestioning obedience to authority is the soul and essence of military discipline. Like Providence, it knows no great or small, but makes as much of "eyes right" as of "Up, guards, and at them"—for the man who has not learned to obey the first will never be ready for the last command.

I confess to a feeling of inward satisfaction when I see a company of this independent order of young Americans obliged to stand and step, to advance and retreat, at the peremptory command of the military leader. I am sure the lesson is worth learning, and that the reflex influence is of service in other departments of college discipline. Nor do I think lightly of the lessons to be learned from a thorough military inspection, especially if executed by a West Point officer. An officer finds it his duty to notice and punish the lack of neatness or personal cleanliness which the rest of us are forbidden to take cognizance of, however prominently they may be obtruded on our various senses. This official plain speaking is very often the first personal call that the offender has ever heard to the cleanliness which is next to godliness.

I argue, in the second place, that military drill in these State colleges is practicable. The first portion of my argument would be of little value, even though its conclusions could not be disproved, if this point of practicability cannot be established. The young men who are gathered in these institutions are at the very age when this discipline can be secured with the greatest economy of time and trouble. If we were to choose from all the citizens of the State those who are in the best position to learn most easily and to retain most tenaciously the system of military tactics, we should, after making a full survey, be obliged to come to the doors of our high schools and colleges. When now it is added that thorough instruction can here be given in military tactics without trenching upon any other field or diminishing any other acquisition, I think it will appear that the State would be derelict in duty if it did not insist on making this demand. I am prepared to go further. I believe that an efficient system of military instruction can be introduced into a college course with positive advantage to the ordinary departments of college work. The element of physical training and exercise, to which reference has already been made, can be so used as to increase the students' efficiency. There is that withholdeth more than is meet in this regard, and it tendeth to poverty. Take a common case. A student has three morning recitations or lectures coming in consecutive order, at 9, 10, and 11 o'clock. By the time that two recitations are completed, the attention is wearied, the memory dulled, and the powers of acquisition for the third hour are certainly lowered beyond the point of profitable attendance. Now, at 11 o'clock, introduce thirty or forty minutes of military drill in the open air—energetic, efficient military drill—and let the third hour be pushed forward by the same measure. This hour now becomes as good an hour as there is in the day. The efficiency of the morning hours has been positively increased by the addition of the drill. But it is not in such a programme only that drill can find a profitable place. The system can be adjusted to any schedule. I have been gratified to learn, as I have lately done, that the Western Reserve College has adopted the military system in full, and has secured from the General Government the detail of a West Point officer to conduct it. Its schedule is the usual one of the

eastern colleges, and its course is the time honored American college course; and yet they claim the happiest results from their short experience.

I assert, then, with all confidence, that experience has abundantly demonstrated what theory would warrant us in expecting, viz, that it is in every way practicable to introduce military drill into college instruction.

I inquire, in the third place, to what extent should the military system be introduced into the State colleges? My answer, in the briefest terms, is this: *We should make a great deal of it for a very short time.* I should count five hours a week a maximum of time to be given to it and two and one-half hours a minimum; but with the lower limit I should be well content. If it is objected that in so short a time as half an hour a day no results of permanent value can be obtained, no habits of military order established, I answer that the capabilities of our college students in this regard are underrated. President Runkle, of Massachusetts, in his lecture on the "Russian system of hand training," shows that intelligent tuition can bring the wakeful minded student of the polytechnic schools to master in hours what the plodding apprentice will require months or even years to acquire. The same line of facts can be noted here.

Intelligent tuition is a sine qua non in establishing the military system in colleges. For myself, I should be satisfied with nothing less than a graduate of West Point as instructor, and I should not be satisfied with him unless he magnified his office. I think that the State colleges have a right to demand that the General Government shall make provision for their necessities in this respect before like favors are dispensed among the denominational colleges.

Military discipline, I repeat, must be made rigid and exacting while it lasts. There is no surer way to bring the system into contempt than to play fast and loose in administering it. For the brief time that the student is a soldier let him be treated as one, held to strictest account for all the minutiæ of the drill, however frivolous they may seem in the civilian's eye. Let the penalties for disobedience be military as far as possible; but it is obvious that, at the last, the drill must rest on common college law. Attendance can be secured only in this way.

It is scarcely necessary for me to say, after this, that in my view the drill must be made obligatory. It must be required of all young men, and must stand on the same ground with other college duties. Exemption will of course be granted for physical disability or for conscientious scruples.

To establish military drill as a voluntary exercise is, in my judgment, altogether inadvisable. Such a system is a foredoomed failure. We can count it settled, I think, that no motives drawn either from self-interest or public spirit will ever bring a body of college boys steadily and punctually to recitation room, to chapel, or to drill. Too many and too potent tendencies of nature are arrayed against such regularity and painstaking.

A college uniform is also essential to the successful establishment of military instruction. There are incidental advantages connected with a uniform that recommend it even to some who value but lightly the military feature in itself. It tends to promote an esprit de corps among students which may be made a very serviceable force. It abolishes the distinctions between the rich and the poor on college ground, a point of no small importance. It often acts as a profitable restraint upon him who wears it, by making him know that the good name of others as well as his own is intrusted to his keeping.

But whatever advantage a uniform may render to the college in such ways as these, it is indispensable to military drill. A young man must look like a soldier before he will act like one.

I count also a full equipment of arms and accoutrements necessary to the successful working of the system. Here I think we can make a just demand upon the Government. Every State college should be able to secure the detail of a West Point graduate and the use of a full set of arms and equipments for the service of this department. I venture to repeat what I said in substance a few moments since, that it

seems altogether proper that the children should first be fed. The number of officers that can thus be detailed for purposes of instruction is at present, I believe, twenty: I am very sure that the state would be the gainer if twice that number at least of those that are apt to teach should be recalled from the aimless and comparatively useless life of garrison or fort and placed at these formative centres.

Let me, in conclusion, guard my words against misinterpretation. I do not count the military system in colleges the centre around which they ought to revolve or the end for which they were created; but I see in it a valuable feature which may easily be ingrafted upon our educational scheme, and which may be made to minister to the physical well being of the student, to the improvement of college work, and to the service and safety of the State.

As a summary of what I have brought forward, I beg leave to offer the following resolution, which I can hardly expect to prevail, viz:

Resolved, That in the judgment of this conference the provision of the law of 1862 which requires the teaching of military tactics in the institutions founded on the land grant is just and wise; and, furthermore, that we do heartily commend to all these institutions the establishment and maintenance of an efficient system of military instruction, in the assurance that it cannot fail to render very valuable service, both to college and to State.

President LAWS, of Missouri, thought that the making of military drill compulsory would not be wise; but this opinion, he said, was but theoretical.

President SLAGLE, of the Iowa University, said that, in his observation, military instruction in colleges is very valuable. He considered that the students would learn a great deal in merely keeping their guns clean and keeping them in their proper places. The drill at the college he is connected with is an hour every day, and the students regularly accept it, as a rule. The students at that college have no uniforms, but he thought that uniforms are essential. The purchasing of suits is not compulsory in that State, but the drill is. President Slagle favored President Orton's paper.

President MINOR, of Virginia, spoke in favor of military instruction in colleges.

President RUNKLE, of Massachusetts, said that the military discipline that is being taught in the schools of that State is a valuable element in promoting the interests of the college. Three hours a week are devoted to military instruction.

Professor ATHERTON, of Rutgers, New Jersey, said that he had found college military instruction a failure in the New Jersey schools. He said that military tactics would be taught hereafter in the colleges there by lectures.

Mr. SULLIVANT, of Columbus, spoke in favor of making military drill compulsory. He claimed that in making it optional it would not amount to anything.

Professor MCFARLAND, of the Agricultural and Mechanical College, claimed that this compulsory education in military tactics under a competent man would bring forth grand results.

President GREGORY, of Illinois, said that the drill at the institution in that State is a success. The military drill is compulsory, and he did not believe it would be a success if it were not so. The military

President ORTON then read a letter from President J. Bascom. of Wisconsin State University.

President ORTON offered the following as his report on "The governing powers of universities and colleges:"

Your committeeman, appointed on the governing powers of the university, begs leave to report that a very suggestive paper on this subject has been put into his hands by President John Bascom, of Wisconsin; but that in default of time for the careful consideration by the conference of the questions involved he is not prepared to recommend for adoption any definite action beyond the following points, viz:

1. The internal management of the university or college, including the conditions of entrance, the courses of study, and the discipline, should be intrusted to the college faculty, and that for its administration of the institution the faculty should cheerfully recognize its responsibility to the regents or trustees.

2. The president of the institution, as the representative of the faculty, should in all cases be entitled to a seat if not a voice in the board of regents or trustees.[1]

Professor MCKEE offered the following report of the committee on scientific studies, which was adopted and referred:

Resolved, That the experience gained in the colleges established on the congressional land grant or enjoying its benefits justifies this conference in bearing testimony not only to the objective value of the exact and natural sciences but also to the great disciplinary value of their thorough study. At the same time this experience furnishes no reason for the exclusion of classical and linguistic studies as elements of the liberal education which these institutions are designed to give.

The committee on degrees presented its report, which was, on motion, considered seriatim.

The introduction, on motion, was adopted.

Part first, on classification of degrees, on motion, was adopted.

Part second, stating that no academic degree not honorary should be granted which is not equivalent to the degree of B. A. as generally accepted, was adopted and referred.

Part third, recommending the addition of the degrees of B. L. and PH. B. to the academic degrees of B. A. and B. S., was, with one or two modifications, adopted and referred.

Part fourth, providing for the raising of the degree of B. S. to a rank equal to that of B. A., was adopted, with the exception of one clause, which was referred to the committee on final report.

Parts fifth and sixth were adopted and referred.

The report as a whole was adopted and referred.

The committee on final report was authorized to call a future meeting of the conference if desirable; the committee was also authorized to collect information in regard to the degrees in the various institutions.

On motion, the conference adjourned sine die.

[1] The other members of this committee did not find time for the consideration of the subject involved.

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 3—1879.

THE VALUE OF COMMON SCHOOL EDUCATION TO COMMON LABOR, BY DR. EDWARD JARVIS, OF DORCHESTER, MASS.; TOGETHER WITH ILLUSTRATIONS OF THE SAME AS SHOWN BY THE ANSWERS TO INQUIRIES ADDRESSED TO EMPLOYERS, WORKMEN, AND OBSERVERS.

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THE VALUE OF COMMON SCHOOL EDUCATION TO COMMON LABOR.

The object of common school education is ordinarily supposed to be simply the acquisition of knowledge, reading, writing, arithmetic, geography, grammar, &c. These are the simple elements which most children acquire in various degrees of fulness and accuracy. They are generally considered sufficient to fit men and women for the common responsibilities of life; they enable the possessor to transact the usual business of the world, and every one should be required to understand them before he enters upon maturity.

Beyond the mere knowledge of facts and principles, there are other advantages equally important and valuable, that grow out of the process of study and acquisition; the training and discipline of the school quicken and energize the whole mental nature, and give it a facility of applying itself and its varied faculties to manifold purposes.

The new energy given to the perceptive and reflective powers by study in the schools remains a permanent possession after the period of education shall have ceased, even though the lessons may have been forgotten. The boy in his plays abroad, men and women in all their pursuits, find ceaseless occasion for their use and pleasure as well as profit in their exercise. The eyes are opened; the dull vision becomes keen; the educated boy or girl becomes an observer, and sees things which the unawakened eye and untrained mind pass by without notice.

The reasoning faculty is also quickened, and the nature, relations, and purposes of things are studied. Thus people become unconscious philosophers, in their several ways, with various depths of insight into the character of the matters that come before them.

Life is a perpetual opportunity of study presented to our attention. The earth and all surrounding objects, the world and its circumstances, are or may be unceasing subjects of observation and reflection. People and animals, and their conditions and relations, are ever offered for our thought. The mind perceives these with more or less care and accuracy, according to its education and habit; one that is developed and trained to activity sees more than another that has not been quickened nor accustomed to action.

Two persons, one educated in the common school and the other untaught and undeveloped, may travel along the same road or over the same field. The same objects and events may be presented to the physical eyes of both, but they make widely different impressions on their

mental eyes. To the one whose mind has been enlivened the way is filled with objects of interest. His retina and brain are impressed with the images of things that are before and around him, and his journey, however short, offers him pleasant and profitable lessons for study. His active brain is occupied with the sight of men, children, houses, trees, flowers, cattle, carriages, teams, events, that pass before him. These he sees, perceives, and understands. His reasoning powers, equally active, recognize the relations, causes, and purposes of things: the meadows overflowed by the recent rains, the vines cut down by the last night's frost, the heavy carts drawn by oxen for farmwork, the lighter carriages for business or pleasure, the long and slender poles by the house for fishing, the shorter and larger poles for the support of beans in the garden, the longer stakes for support of grapevines, and the heavier stakes or posts for the fence; his busy perceptive and reflective faculties notice these and manifold other things along the course of travel, and beyond their outward appearance discover the causes that produced them and the purposes for which they were made. So his life is a continued succession of observation and reasoning. Whether he have an object or not, whether mere curiosity or business impel him, his brain is continually at work and gathering strength by exercise and facility of application to any purpose that he may wish to accomplish.

To the other and duller traveller, whose mental eye has not been opened and whose reasoning faculties are yet dormant, the way and the field are blank and uninteresting. He sees little or nothing, and draws few or no conclusions. His mind is excited to little action, performs no labor, and gathers no strength from observation of the scenes and events that pass before his untrained physical eye.

OBSERVATION IN CHILDREN.

A sagacious teacher of a country school required each child to make or write something on a slate every day—a mark, letter, word, sentence, or composition, according to his or her capacity. One morning a girl of ten years wrote a history of her journey from her home to the school-house. She wrote this as rapidly as her pencil could form the words, for her mind was filled with the things which she had noticed on the way and the reflections and emotions that they had excited. The journey was full of interest and observation of the people, cattle, dogs, birds, insects, fields, corn, rye, flowers, wagons, &c., that she had passed in the few minutes' walk from her home.

She said, coming by the grist mill, she noticed that the pond, which was full the day before, was now empty, although plenty of water was running through the channel and through a sluicegate in the dam. She concluded that it was drawn down by design. Seeing men at work with axes, saws, and hammers under the mill, she inferred that they were repairing the water-wheel. Soon after, she met a farmer going toward the mill with some large bags, well filled, in his wagon. She then thought

that he was carrying grain to the mill to be ground, and felt pity for him, as he would be disappointed, for that day at least. She carried her sympathy to the farmer's home, and hoped that he had not waited until they were out of meal, and that the family would not have to wait for bread until the water-wheel should be repaired. Passing a house she saw bundles of shingles in the yard, and a ladder raised to the eaves; she concluded that the roof was to be shingled, and, soon meeting a man with a hatchet in one hand and a box of tools in the other, she supposed that he was the carpenter going to do the work on the house.

Seeing a hen in a farmer's yard with only five chickens, she remembered that she had six the day before, and suspected that the fox, skunk, or other wild animal that was supposed to have destroyed some of her father's and neighbors' chickens, had been at work here also, and was still too cunning to be caught in the traps that had been set for it. Seeing a robin fluttering about a tree, manifesting by her manner and her cries great distress, she looked under the tree and saw a cat looking very intently upward: she inferred that the bird had a nest with her young there, and was fearful that the cat intended to destroy them.

With these and other observations and reflections on the things and events which she had seen on her way, she filled two sides of a large slate. She was an observer and a reasoner; her mind and its elements had been quickened into life, and had found plenty of occupation in this simple way. But another, with less active reasoning and duller perceptions, might have passed over the same road at the same time and seen little or nothing. With few or no facts and no conclusions, the whole history of the journey would be that she walked from home to the school.

Thus boys and girls who are educated and trained by the studies of the school to observe and reflect carry their power and habit of mental action with them wherever they go. In the sports of childhood and youth, in the various employments of maturer life, whether they are laborers, farmers, mechanics, or workers in any other sphere, whatever may be the material on which they may operate, whatever may be the changes they may desire to effect or results they may attempt to produce, they enlist the coöperation of their sharpened perceptions and disciplined reason in the plan and performance of their undertakings.

MUSCULAR FORCE.

The bones of the animal frame are covered with a great variety of muscles. They are the lean meat and constitute a large portion of the body. By their contractions they bend the joints and move the limbs. By these we walk, we strike blows, we lift, draw, and push, we use tools, move machines, we cut, saw, hoe, and dig, we make the rough smooth and the smooth uneven, we alter the form and condition of things, and produce other effects and changes in external matter as occasion may require.

It is not sufficient for these purposes that man should be endowed with this great force, however versatile it may be. It needs to be directed and measured, so that a blow shall be in the proper direction, reach the intended point, and produce the desired effect. The hammer must hit the head of the nail, the axe the place where the wood is to be divided, the spade the soil that is to be broken. The blow must be struck with the appropriate momentum: not too great, which may crush and injure; nor too little, which will fail of effect and be lost.

TRIP HAMMER.

The old fashioned trip hammer always struck its blows in one invariable course and inevitably reached its object if that was in the line of its motion. It dealt its blows with unvarying force upon whatever was in its way, whether it was the largest bloom or the smallest wire. The later improvements of lifting by steam enable the workman to measure and control the momentum, but the direction is ever the same.

LIVING WORKER.

The living worker has no such limit as to direction of movement or as to momentum, but he can vary the first indefinitely and the last within the limit of his strength. The muscles are so distributed and arranged that man can move his limbs in any line. He can strike upward and downward, forward and backward, to the right and to the left, and at any angle between these directions. He can give these movements any degree of force, between that which is only sufficient to produce the slightest touch and that which is given with all his might.

All this animal force is under the control of the brain and the mind. These, through the nervous system, govern the contraction of the muscles and guide the movements of the hands and feet in any desired direction; they measure the force of blows and apply them to all purposes.

It is this control of the brain and muscular force that gives the limbs of the animal superiority over the trip hammer. It is the control of the mind over the brain that makes the hand of man more effective than the foot of the lion. It is the mental development and culture, the discipline and certainty of physical actions, that make the skilful workman superior to the awkward and unskilful in the application of muscular force to the business of life.

CONDITIONS OF SUCCESSFUL LABOR.

In the performance of all labor of the body, there are two things to be considered: (1) the nature and character of the material on which the operation is to be done; (2) the force by which this is to be effected. It is necessary to adapt the force to the condition of the matter in which changes are to be made, and to apply it in such a way as to produce the desired results without injury to the operator or the subject of the work.

The carpenter works on wood, the smith on metals, the brickmaker on clay, and the farmer on the soil. Each must comprehend the nature and condition of the substance to which he applies his hands or his tools, and the best way of making this application in order to accomplish his purposes. This necessity is attached to all the labor of the world. Mechanics of every grade, the coarsest as well as the most refined, the wood sawyer, the coal heaver, the shoveller of gravel, all come under this law; all need to study, observe, and reflect, and in proportion as their minds coöperate with their hands, in ratio of the activity and correctness of their perceptive powers and the carefulness of their conclusions, will they succeed in their attempts at work. The difference in the degree of this coöperation of brain with muscle or the habits of observation and reasoning with the physical movement constitutes the difference between the successful and the unsuccessful in every sphere of employment.

Intelligent workmen, with their eyes ever open, clearly comprehending the nature and character of the materials on which they are to operate, and the changes that they are to make, next consider the manner in which they can best apply their powers for this purpose. Having thus laid their plans, they use their power discreetly and effectively. They strike their blows in the direction that will give them the best effect. They waste no time nor strength in striking where no change can or need be made.

When a succession of blows is needed to produce a definite result, they are so given that their effect is cumulative. Each adds to the effect of the preceding. The skilful woodcutter strikes the second blow with his axe in the plane and the place of the first. The third and the fourth follow in the same plane, until the parts are severed.

The observant workman does not run needlessly against obstructions; or, if he meets them, he at once discovers whether they can be overcome; and if not he expends no force in the struggle to remove the immovable. He arranges and performs the successive processes of his work with appropriateness. Each exertion seems to grow necessarily out of its predecessor and to add to its effect. As soon as one process is completed, the next suggests itself, with a manifest fitness; no time is lost in doubt as to what shall be done next or in the transition from one step to another. No mistakes are made in the order or propriety of these movements.

Such men do not depend merely upon their bodily force in effecting their purposes. They take advantage of all the natural aids which are offered in the position and relation of the substance on which they wish to operate. They take hold of things in the way they can be most conveniently moved. They do their work easily and with comparative grace. They are what are commonly called handy men. They have an aptitude for whatever they undertake to do. Without superior

strength, they use what they have with such tact that they accomplish large results.

A skilful builder of rude stone walls in a rural district was rather a slight man as to stature and weight, yet he was noted for his power to place on a wall, unaided, a larger stone than any other man in his town. His neighbors said he knew how to take advantage of it and could handle heavy stones easily. Unconsciously, he was a practical natural philosopher in his work. He availed himself of the facilities of means and position that nature afforded him, the lever, inclined plane, &c. Such men in their several ways expend and apply their forces economically and successfully, without exhaustion or even great fatigue.

The unthinking, unskilful worker may be large and heavy; he may be able to lift great weights and strike hard blows, yet his exertions are uncertainly directed and may be misapplied, and consequently partially or entirely lost. While this paper was in preparation, two untaught laborers were seen endeavoring to lift out of its bed in a quarry a large stone loosened by powder. They placed their iron bars in such a manner that nearly the whole of their force was expended in pressing the loose stone against the fixed ledge on the opposite side, and no part of it would tend to lift the stone from its place. A better observer then removed the bars to another side of the fragment of rock, where their movement would be in the only line in which the stone could be taken from its position. These are awkward and comparatively unprofitable laborers. They may be very strong, and expend more force, and become more fatigued, and yet, with all their great endeavors, they accomplish less than their more intelligent associates.

These differences in the application of personal force may be seen everywhere in the world, in all departments of labor, among mechanics of every occupation, cultivators of the earth, the hewers of wood, all who use their hands, tools, or machines to effect changes in the position, relation, or condition of material substance. Even the laborer, whose occupation would seem to require no thought nor skill, the scavenger who scrapes the mud in the streets, the shoveller who fills a cart with gravel or manure, the man who digs the garden with his spade, the boy that turns a grindstone to sharpen an axe: among all there is a manifest and practical difference as to the manner of applying their forces to their work, and as to the effect of their exertions, between the thoughtful and the thoughtless; between those whose quickened mind lends its aid to their muscular efforts and the duller workmen, whose hands alone are given to their possessors and who take their chance of moving in the best and easiest or in the harder and less appropriate way.

ANALYSIS OF PROCESSES OF LABOR.

In this view of the matter, it is interesting and profitable to watch the movements of workmen, mechanics, farmers, laborers, and analyze their

successive processes, and see their relations to each other, to the material on which they operate, and to the result which they attempt to produce.

WOOD SAWYER.

It seems to be a very simple matter to saw wood for fuel. Anybody without intellect, apparently, can do this work. Nevertheless, the intelligent and thoughtful can do it better and more rapidly than the ignorant and careless. The sawhorse must stand firmly on all its four legs. The log or stick must be placed securely in it, well balanced and supported; otherwise it yields, rolls, shakes, or recedes before the pressure of the saw. If it be so placed that the cut is in the middle of the horse, between the legs, when the division is nearly made the stick bends downward, the two inner ends of the partially divided parts are brought together, they press upon the saw and render its movements very difficult and often impossible. If the stick be so placed that the cut is made outside of the horse, unless the part that rests upon the horse is long and heavy and is held firmly in its place by its own weight or by the foot of the sawyer, or unless the saw is run close to the horse, the pressure will turn the outer part of the stick downward, and bend or twist the saw and prevent its running. By proper movement of the saw, forward and backward, the teeth cut off particles of the fibres of the wood and make a narrow fissure through the log. The power that does this is the result of the twofold force, that which would move the saw in the direct line of its length and that which would press it into the wood. If the first act alone, the saw moves over the log without cutting; if the second act alone, the saw is immovable. It is therefore needful to combine these forces in such proportions and to bear upon the saw at such an angle that the teeth be pressed sufficiently into the wood to cut off the superficial particles but not sufficiently to arrest its movement.

The thoughtful workman recognizes all these necessities, and makes his arrangements accordingly. He finds no difficulty in sawing [illegible] wood; he meets with no accidents, loses no time nor force in restoring his disturbed log, or in difficult motion of the saw, nor does he injure [illegible] by endeavoring to push it when pressed, bent, or twisted. Al[illegible] ertions are made with advantage; every movement of his saw [illegible] the fissure in the log. He works rapidly and without needless [illegible]

The duller workman does not understand these conditions or comprehend their connection with his purpose. He places his horse [illegible] and his wood upon it as it may happen to fall. So his horse [illegible] his log may roll, his sticks tip up, his saw may be impe[illegible] labor increased or even suspended. He has frequent [illegible] work is interrupted; his progress is slow. He expends [illegible] and his tools require more frequent reparation than [illegible] observing and more successful wood cutter.

WOOD SPLITTER.

There are great differences in the divisibility of logs of wood and equally great in the manner of men's attempts to divide them. They must rest on firm foundation of earth or other logs; for otherwise they tremble or give way beneath the axe, and the blows are partly or entirely wasted. The log is more easily split in one side and at one end than the other, in the line of the knots rather than across their fibres. The intelligent splitter comprehends all these conditions and makes suitable preparations, and then he strikes in the place and direction that give the best promise of division. If the first blow with the axe is insufficient to sever the parts, he follows it with others in the same line, so that the effect shall be cumulative, until the log shall be divided.

The thoughtless splitter has no such comprehension of the best means of applying his forces to their work. He begins without guide. He places his log on whatever foundation may be at hand, whether suitable or not. He strikes his axe into any part that chance may present. If the first blow fails to sever the parts, he may strike again in the same place and complete the division, or in other places and lose the advantage of adding the effects of successive blows to those which he had previously struck. He may make as great efforts as the better workman; he may strike as heavy blows; but, for want of intelligent direction, some are wasted and some produce little effect.

GRINDSTONE TURNER.

Turning a grindstone is among the labor that requires apparently no mental coöperation: so it is with the dull turner. When the crank is uppermost, he pushes it from him and downward until it reaches its most distant point; then he draws it toward himself and downward, until it is at its lowest point; then he lifts and draws it, until it is nearest to his body, and lastly he lifts and pushes it to the highest elevation. These efforts are repeated at every revolution, by the unbroken strain of the muscles of the arms, back, and legs, through the successive circles of motion.

The brighter turner soon discovers that the weight of his body, pressing on the crank in its downward course, will not only carry the stone through that part of the revolution, but will give so much momentum to the movement of the stone that with but little aid from the muscles it completes the revolution. So he makes gravitation do most of the work, and his principal labor is in lifting his body to the erect position and in throwing it on the descending crank.

SHOVELLER.

The coal heaver, the digger of the earth, the shoveller of gravel at the bank or of manure in the barnyard, seem to need mere muscular force for their work, and to do it without assistance from the intellect. But,

on watching the movements of men of various degrees of mental development and discipline while performing these simple operations, it is easy to see that there is a great difference in their manner of working and in the effectiveness of their exertions. And a careful analysis of their processes makes it plain that it must be so; for, with equal expenditure of physical force, the thoughtful laborer throws more gravel into the cart or digs more ground in a given time than another whose mind is dormant while his hands alone are busy.

The intelligent shoveller, who brings quickened perceptive and reasoning faculties to his work, first surveys the whole premises, and determines the condition and bearings of all the circumstances. He places the cart which he intends to fill at such a distance from the materials that he is to put into it that, with the least effort, he can transfer the gravel from the ground into the vehicle.

Ordinarily he meets no difficulty in loading his shovel by inserting it into the bank or heap of material that is to be moved. But, if he encounters any resistance to this process, his quick sensibilities at once discover the obstacle and his ready reason determines its character. If it be mere compactness of the gravel, he applies his foot to the shovel and presses it into the mass; but, if it be a stone, he sees in a moment that it is impenetrable, and that it is useless to press in that line. If the stone be small, he changes the direction of his tool to a lower line, and, passing under the obstacle, takes it up; if the stone be large, he digs in another place. In this manner he loses no time in useless struggles to effect the impossible.

The duller workman, meeting the same obstacle, if he thinks at all, only supposes it needful to add more force to overcome it, and therefore pushes again and again with his hands and foot until, after a loss of time and force, he slowly comes to the conclusion that his shovel cannot pass in that direction.

THE INTELLIGENT SHOVELLER.

Having filled his shovel with gravel or manure, the laborer's next object is to deposit it in the vehicle for transportation. This seems to be so simple a process that all men alike, whether bright or dull, would throw it into the cart with equal certainty. Watch, then, these classes of shovellers, and it will be seen that they differ in their manner and success in this operation. The observant one holds his shovel at arm's length, with his elbows slightly bent, the handle of the shovel at a large obtuse angle with the forearm, and the blade of the shovel at right angles with the plane of motion. Then he swings the loaded tool making an arc of a circle the radius of which is a direct line from the shoulder to the end of the shovel. He makes this movement quickly through a proper part of the circle, and then suddenly stops. The vigor of this movement is sufficient to give the load an impulse that will carry it from the shovel, after it stops, to the point desired. The load passes

in a tangent from the inverted arc. The centrifugal force tends to carry it directly in this tangential line; but the force of gravitation intervenes, and under the influence of both the gravel moves in a curve with its apex upward.

The discreet shoveller carries his shovel to a point in the circle whence the tangential movement, modified by gravitation, shall describe a curve which at its highest part is above the cart wheel, if he fill at the side, and as high as the top of the load if he throw in at the end. As the blade of the shovel is held at right angles with the plane of the curve of motion, all the contents are carried in a curve of the same radius, all pass off at the end of the shovel, all receive the same impulse, all are driven by the same centrifugal force in the same tangential line, and all fall together into the vehicle in a compact mass; nothing falls to the ground, nothing is lost on the way.

THE CARELESS SHOVELLER.

The thoughtless workman, on the contrary, unaccustomed to noticing the exact relations of things and having no comprehensive plan of operation, places his cart by accident. He may place his cart at the proper distance from the bank, where he can throw the gravel with the least cost of force and with no loss by dropping on the way; or it may be so near that he has insufficient room for the free movement of his hands and tools. In that position he is obliged to bend his elbow and move his shovel in a smaller curve, and he must use greater force to throw the gravel over the wheel in this short space than if he had opportunity to swing his shovel at full length of the arm. The cart may be even so near as to make it necessary to lift the shovel directly upward at the greater cost of strength, and with the danger of hitting the vehicle on the outside and shaking off a part or the whole of the contents of the shovel; or, as chance, not intelligent observation, governs this matter, the receptacle may be so far off as to require the workman to walk a step or two more, carrying his loaded shovel in his hands, to get within throwing reach of its place of deposit; or, if not so distant as to compel him to move himself toward it, still it may be so far that the impulse given by an easy swing of the arms will not carry the gravel into it. Then it is necessary to exert a greater force for this purpose.

Nor is this dull laborer always mindful of the position of his shovel when he throws its contents. He may hold the blade at right angles with the plane of motion, and at other times at an oblique angle with this plane. In this position, the oblique surface of the shovel, acting as an inclined plane to the line of movement, causes the contents to slide toward the lower side and some to drop off in that direction. The upper and lower parts of the shovel move in curves with different radii; their tangents in which the gravel moves from the shovel are in different lines; the curves produced by the combined centrifugal and gravitating forces, acting on the contents of the upper and lower parts of

the shovel, reach different elevations, and, though the main part may pass over the wheel to its destination, there is a shower of particles dropping to the ground all the way from the shovel to the cart.

In these and other ways the laborer whose hands are not guided by quickened perceptive and reasoning faculties loses a part of his exertions and accomplishes less than his better trained fellow worker.

SPREADING GRAVEL OR MANURE.

The farmer takes his compost from the heap in the barnyard and spreads it over the surface of his field. The last is often done with the shovel directly from the cart. The manner of removing the matter from the cart is the reverse of that of placing it there. In the first operation, the workman wishes to throw his shovel loads in compact masses into the vehicle; in the other, he wishes to spread the matter widely and thinly over the ground. In loading he holds the blade of the shovel at right angles with the plane of motion, which is generally nearly or quite vertical. In spreading he holds the blade at an oblique angle with the plane of motion, which is never vertical, but oblique, or nearly or quite horizontal. This manner of holding and carrying the shovel throws the compost in successive and diverging particles from the end around the circle of movement, and scatters them like a shower from a watering-pot.

The laborer of lower intelligence goes through the same work of spreading in different manner and with different success. He takes the compost from the cart, shovelful by shovelful. But when he wishes to scatter it over the ground he may hold and swing the shovel in the easiest and best manner; or, as he works at random, he may carry the blade at right angles with the plane of motion. Then the contents move in a compact mass and fall in a heap on the ground, and another laborer is necessary to spread these heaps evenly and thinly over the surface.

SCAVENGER.

The scavenger with his hoe scrapes up the mud, dirt, and filth in the street or sweeps the pavement with his broom. This is mere hand labor. Can the brain lend any aid in his processes? Will culture of any of the mental faculties help his work? The world seems to think that, in this occupation, education is a wasted investment. Nevertheless, it is worth while to watch the street cleaner in his work, to analyze his processes, and see how far discretion and judgment may be of use to him and profitable to those who employ him.

The surface of the street may be of hard, well beaten gravel or loam, or it may be macadamized, stone, wood, iron, or other pavement. If of stone, it may be of cobbles or of square blocks. It is desirable to remove all the mud, dirt, filth, and other accumulation, without disturbing the substance of the street itself by removing any of its gravel or loam or

by loosening any of its pavement. For this purpose it is necessary that the scraper should carry his hoe sufficiently near to the surface to take hold of and remove all the loose particles, and yet not so near as to catch or loosen or remove any parts that are fixed and should remain. He must hold his instrument suspended in his hands, just touching the smooth surface without pressing upon it, and raise it carefully over any projection of wood, iron, or stone in the pavement, sufficiently high to pass over it without disturbing it, but not so high as to lose any of the burden which had thus far been gathered.

The thoughtful scavenger has these conditions constantly in mind, and governs the movement of his hands in accordance with them. He removes the accumulations upon the surface without disturbing any part of the street itself. His quick sensibilities, by the slightest touch of the hoe, reveal the pressure of an obstacle that cannot and should not be removed or loosened before he strikes with violence or draws with energy against it. He makes no useless expenditure of force in scraping up any of the roadbed or in drawing against the immovable projections of the pavement.

The careless scavenger gives no thought to these conditions of his work. He lets his hoe rest upon the ground or sometimes presses it downward in order to be certain that he scrapes clean. His only effort is to drag the hoe over the ground. He draws not only the mud and dirt that should be removed, but also some of the loamy or gravelly surface of the road. He hits against projections, and then struggles with more force to draw the hoe through them, and expends useless strength before he discovers the impossibility of drawing in that direction, or perhaps removes some part of the pavement. After making this tardy discovery he lifts the hoe, not cautiously, to lose as little of its load as possible, but freely and high, leaving some of the gathered burden behind.

So his careless and unskilful manner of cleaning the streets impairs the pavement, leaves it still uncleansed, injures his tools, and the friction of the hoe on the ground and the striking and drawing against the projecting pavement demand a greater outlay of force than is needful for the best performance of the work.

USE OF MACHINERY.

Machinery is sometimes said to take the place of intelligence. Its manager is thought by some to be reduced to its level, a mere automaton to complete the unthinking work; and the two machines, one dead, composed of wood and metal, and the other living, composed of bone and muscle, make but one complete whole, and they together perform one work.

Very far from this is the truth. The management of a machine requires more intelligence and more mental coöperation than the simple

processes performed by the hands alone. The more complicated the machine the more need is there of observation, reflection, and concentration in those who manage it.

WEAVER.

The weaver puts into the power loom warp sufficient for the proposed piece of cloth. The filling is wound upon the bobbins, which are placed in the shuttle. The loom is put in motion, and apparently may continue to weave the whole warp into cloth without interruption, except the replacement of the bobbins as often as the thread is used from the one in the shuttle. The attendant or weaver seems to have nothing to do but to put the full bobbin in place of the empty one as often as is necessary. This the quick witted weaver does promptly. She knows how long a full bobbin will last in the shuttle and has another ready; she watches the time of its exhaustion and at once makes the change; hardly a moment is lost by this interruption. This is a necessary part of the process of weaving, for the way has not yet been discovered of connecting with the loom an indefinite amount of filling as well as of warp.

But this change of bobbins is only a part, and with some only a small part, of the responsibility of the manager of the loom and of the interruption to the work: threads, both of warp and filling, are liable to break; bands may slip from the wheels, and other accidents happen to parts of the machine. Constant attention is required to recognize these as soon as they occur, to make the needful repairs, and reduce the disturbed elements to order.

To the unused spectator the running loom sends forth a complication of mingled and undistinguishable sounds, a mere confusion of rattle. But the intelligent operative soon analyzes these confused elements of noise and discriminates the several parts which each portion of the loom contributes to the whole. She refers one to the beam, one to the shuttle, one to this wheel and another to that wheel, &c. To her perceptions every one of these sounds has its origin in a recognized part of the perfect loom. Each element of the noise thus represents to her understanding the correct movement of its own part, and the whole represents to her the healthy running of the complete machine in good order. Familiar with the whole and with the several component elements, she readily detects any variations, any excess or deficiency, or any new and strange sound. Her quick perceptions recognize the disorder, and her reason as readily refers it to its source.

ORCHESTRA.

The music of an orchestra is composed of a variety of sounds sent forth from many kinds of intruments. The ordinary untrained ear only knows the several sounds as one whole, and finds pleasure from the resulting harmony. But the cultivated leader analyzes the various sounds

and refers each to its origin in its appropriate instrument. If any player fail of his due note or if his instrument give forth any discordant note, he at once perceives the difficulty and refers it to its cause.

STRAUSS.

At the great musical jubilee in Boston, in 1872, Strauss, the celebrated composer and leader, was conducting a rehearsal of an orchestra, said to be composed of a thousand instruments; suddenly, when to the common ear everything was going on in complete harmony, the leader arrested the whole proceeding. The audience was taken by surprise, for all was apparently satisfactory; but the intensely acute ear of the accomplished conductor had discovered an imperfection amid the immense volume of sounds. He went directly to one of the performers, and pointing to a note in his score said, "Fortissimo," and then returned to his post. The musicians then went over that part again, and without the failure that had before disturbed the acute sensibility of Strauss.

So the trained ear of the thoughtful weaver discovers any variation of the proper sounds of the loom, and quickly, before the disturbance has time to increase, she stops the machine, if it do not stop itself, and finds the cause—it may be a broken thread in the warp, a knot in the filling, a band out of place—and immediately makes the needed reparation. This is the work of but a few moments; the interruption is very slight.

DULL WEAVER.

The unintelligent, thoughtless weaver brings no such quick perceptions and analytical power to learn the sounds of the loom and to refer them to their several parts. She has no comprehension to determine what each element of the noise represents. To her the whole is a mere confused medley of noise. Her ear does not, then, detect variations or the signs of disturbance; still less can she refer them to their appropriate source in the parts of the loom.

When any disorder happens, a thread breaks, a band slips, the shuttle falls out of place, or other irregularity, it may be several seconds before she discovers it. It is still longer before her dull reason comprehends the difficulty and comes to a conclusion that the machine must be stopped. While she is waiting for her tardy thoughts and equally slow hand, the disturbance increases and more mischief is done, more threads are broken before the loom is still. Then the mental process of finding the cause of the trouble and of determining how it shall be repaired, and the work of reparation, all these consume much time, during which the weaving is necessarily suspended. She takes no exact note of time: she is not conscious of the period a bobbin will last in the shuttle, but makes a new discovery of its emptiness when its thread is gone; then she remembers that the shuttle must be taken out and another with a full bobbin put in. All these processes of mind and hand—the dull

perception, the hesitating conclusion, the tardy reparation—consume several seconds, perhaps minutes, and cause perceptible suspension of the work.

If there were none of these interruptions except for the replacement of the bobbin and the weavers had equal mental and bodily activity, all the looms of the same construction and propelled by the same power and with the same warp and filling would weave the same quantity of cloth in a day. But there are great differences in results. These differences are caused mainly by the varying stoppages of the looms, and this is due to inequality in the skill and activity of the loom tenders. Some have more accidents than others, and some require a longer time for repairs.

An overseer in a cotton mill, pointing to a room in which the weavers were well educated, said to a visitor: "Those looms weave 20 to 25 per cent. more than those in another room which are managed by girls that have some slight education, and 50 per cent. more than those in the room below, where the operatives have received no education and can neither read nor write." In another factory, where operatives of various degrees of intelligence and culture are employed and paid by the piece, a similar difference is shown by their earnings. Their machines, motive power, and threads are alike; but their wages vary from $7 to $11 a week. The highest, which was 57 per cent. above the lowest, and all the intermediate wages indicate the differences of amount of cloth woven and of intelligence and skill brought to the work.

Similar differences are found in other branches of the manufacture of cloth—in the spinning, carding, and other processes—that require human supervision and direction. All are benefited by the quick eye, the ready comprehension, and the sure reason of the educated operative.

CARPENTER—NAIL-DRIVING.

The skilful mechanic has necessarily a quick, discerning eye. He comprehends the nature and character of the materials on which he is to work, and the means and processes by which he can make changes in their condition.

The successful carpenter adapts his tools, planes, saws, augers, chisels, &c., with exact precision to his lumber, and thus produces new forms and combinations. His processes of labor may seem very simple, and some of them apparently need no coöperation of the brain: any person, even the least taught, can drive a nail. But here, as well as elsewhere, there is a great difference in the work of men of different degrees of mental activity and discipline.

Whatever may be the intended direction of a nail that is to be driven into wood, it is actually carried in the direction of the blow that is struck upon it. If the line of the nail be coincident with the direction of the blow, it is driven longitudinally in its intended course, and all the momentum of the hammer is applied to its purpose; but if the movement

of the hammer be oblique to the nail in either direction, to the right or to the left, forward or backward, the nail is turned in that way, and is not carried lengthwise into the wood: that exertion is lost.

The observant carpenter understands these conditions and adapts his movements to them: he carries the hammer in the same plane as the line of the nail; the impulse of the blow, the line of the nail, and its intended course are coincident, and each represents a tangent to the curve made by the hammer; every blow moves the nail inward in ratio to its momentum.

Without these mental aids of understanding and discipline, the unskilful workman is ever in danger of failing to adapt the movements of his hands to his purpose. He lacks precision in his plans and exactness in his execution. It is, therefore, but a matter of chance that his blows hit the nail on the head and in the line of its length and intended direction. The plane of the circle in which he moves his hammer may be parallel with the line of the nail; if so, he drives in the right course. And it may vary to the right or to the left; whatever may be this obliquity, the blow falls in that line, and turns the nail so far from its intended way. That blow is lost: it does not carry the nail lengthwise into the wood. Moreover, it necessitates another blow to restore the nail to its erect position, if it is not broken. While the intelligent shingler may drive his nails with two blows, the careless workman may sometimes need to expend four blows for the same purpose.

There is a difference in the force of the blows between these two classes of workmen due to the same cause. The disciplined and thoughtful, having the direction clearly in his mind and knowing that the blow will advance his object, strikes boldly and effectively; but the awkward nailer, lacking the sure confidence that knowledge gives, feels uncertain whether he may do good or harm with his hammer, and therefore strikes timidly, less effectively, and needs more repetitions to complete the work.

HEAVY AND LIGHT TOOLS.

In all endeavors to effect purposes by the means or intervention of tools, implements, machines, or vehicles, the first part of the motive power is expended on the instrumentality—in wielding the tool, running the machine, moving the vehicle, wagon, or carriage—and all the force that is expended in this manner is lost to the object of the exertion. A child may have just strength sufficient to lift a basket or trundle a wheelbarrow; but in proportion as the weight of the vehicle is diminished, load can be added.

All these instrumentalities are made light and delicate, or strong, coarse, and heavy, according to the work which is to be done with them and the way they are to be used. A carriage that is to be driven carefully and on smooth roads may be light and easy to be moved, and one that is to be driven recklessly and over rough, stony roads must be strong and heavy, and require more power to move it. The same horse

can draw more freight in the light than in the heavy vehicle on the same road. The difference in the loads is equal to the difference of power required to move the carriage alone.

Ignorant and coarse workmen need to have strong and heavy tools to endure the rough handling they receive without being broken. The hoes with which the ignorant scavengers used to clean the streets in a southern city were enormously thick and heavy. The handles were very large poles, taken from the forest in their natural state, with the branches trimmed off. The reason given for their clumsiness was that these heavy tools were necessary for the rude laborers on the farm and the street cleaners of the same want of culture. No others would be safe in their hands. The light hoe, which skilful men use with safety and advantage, would be broken by the rough usage of the ignorant and careless workman. On further testing them it was found that the coarse hoes, with their huge handles, weighed twelve pounds each, while the more graceful tools of cast steel, with turned handles, weighed less than two pounds.

Here was a great difference in the amount of force that must be expended in moving the instrument before it could effect its purpose: six times as great for the laborer who worked with his muscles alone as for him who could bring his brain and intelligence to aid and direct his physical exertions.

Suppose that two scavengers of equal bodily strength, but with different mental activity, could make the same bodily exertions through the day; suppose that they were employed side by side in cleaning the street, the intelligent using the light hoe and the ignorant man using the heavy instrument; suppose each could haul twenty pounds at a time and could make the same number of strokes; then the load which was hauled by the dull workman would consist of twelve pounds of hoe and eight pounds of mud, while that drawn by his bright associate would consist of two pounds of hoe and eighteen pounds of mud. The result of the same expenditure of force would be more than twice as great when guided by intelligence as when left to the hand alone.

There is another consideration connected with the expenditure of force: the two scavengers are supposed to use the same exertion in hauling the mud to the heap, but when they throw their implements back for another load, one carries twelve pounds, thereby expending six times as much strength as the other whose hoe weighs only two pounds.

A manufacturer of scythes, in Massachusetts, visited a dealer in agricultural implements in one of the Southern States, many years ago, to see his wares. The dealer at once said to him: "If I had bought such scythes as are made for and used by the northern farmers they could not be sold for or used by southern slaves. The delicate tools which are easily and safely handled by the intelligent laborers of the North would be quickly broken by the ignorant and awkward laborers of the South. They use their implements carelessly and roughly. They

strike against stones, roots, bushes, hassocks, and often into the ground, and so they bend, twist, and break their scythes. We must have short, heavy, stubbed scythes, that will bear the hard usage of our men."

With such scythes as these men can use safely, they cut narrower swaths and less at a clip, and consequently mow less in a given time. They cannot cut the grass as evenly or as closely to the ground as skilful mowers with the best scythes. They leave a higher stubble to be wasted, and obtain less hay from a crop of grass equally heavy than the intelligent workman.

In every stage and relation of the labor in the hands of ignorance there is a tax: in injury to the material operated on, in the increased wear and breakage of tools and implements, in the greater expenditure of force, and in the diminished production. The cost is greater and the profits are less.

COMPREHENSIVE PLAN OF LABOR—RAPID SUCCESSION OF PROCESSES.

Labor, however simple, is a succession of processes, passing from object to object, from movement to movement, to produce a definite result. In these changes or passages from one to another the brain guides the hand, and in proportion to the activity and discretion of this mental coöperation is the work rapidly or slowly performed. The intelligent worker first surveys and comprehends all the details of the business before him and the processes needed for his purpose. He arranges these in proper order in his mind, and determines the plan of execution. This gives him mental decision, promptness in action, and correctness in the adaptation of his forces to his work. When one process is completed the next is present to his thought, and the ready hand simultaneously follows the mental direction.

The skilful shingler makes all his preparatory arrangements to facilitate his final work. He lines the roof, lays the shingles in heaps along the course, and fills his pocket or apron with nails; then, with a glance of his eye, he measures the vacant place that is next to be covered, and selects a shingle of proper width to break or cover the joint in the last course laid. He trims and shapes it, if need be, to fit the place, takes the nail from his pocket and drives it in, in the proper position, where no dampness, even by capillary absorption, shall reach it and cause rust and remotely a leak. He goes through all these mental and bodily processes in due succession; he performs each one completely, and then passes instantaneously to the next, with no interval of doubt or hesitancy, and no loss of time.

The duller mechanic has no such clear comprehension of the whole character and detail of his work; he makes no such plan of the order and succession of his processes. When one is completed, he is often at a loss as to what should follow, and hesitates a moment, looking vacantly to find direction. His dull eye does not measure at sight the relative width of the place to be covered and of the shingle before him. He

needs often to lay it down to see if it will break the joint. In his transitions from process to process, from selection to fitting, from fitting to nailing, with their subordinate details, there is a want of that versatile mobility which a quick eye and thoughtful mind give to the hand of a rapid workman. He is slow in his movements, loses time in his changes, and is therefore unprofitable.

HOEING CORN.

When the intelligent farmer hoes corn in his field or beans in his garden, he surveys each hill as he comes to it, and sees at a glance what should be done, the weeds and the grass to be killed and buried, the part that needs to be banked up, and where he shall find the loose earth to fill the low place. He begins his work on one side, and passes around to the other and to the place where he began, completing in each part, before he proceeds to the next, what is necessary to give the hill its proper form to support the corn and allow it the best opportunity for growth. Having finished a hill, he passes at once to the next; using there the same judgment and decision and the same diligence in execution, he goes through his field without loss of time or interruption of labor, or misapplication of force.

Another laborer in the same field, destitute of this ready perception and discretion, neither comprehends nor plans his processes from the beginning. He strikes his hoe at haphazard, digging here a little and on the other side a little, leaping from part to more distant part, and at length looks over the field to see whether any part has been omitted; and if he finds any weed yet standing or low place unfilled, he makes the suitable repairs, and then takes another survey, with the possible need of further labor to complete his work. Then, after striking more blows with his hoe than the better educated coöperator, but with not more complete hill, he is about ready to pass on to another, which he digs about with the same irregularity and order of processes. Not infrequently, after he has gone to a second hill, he looks back over the row which he supposed he had finished, and seeing some parts omitted returns to complete his work there.

HAY-RAKING.

It is seemingly a very simple matter to rake hay in the field in the summer; nevertheless, only the observant and the thoughtful rake the ground clean and rapidly. The careless raker applies the whole breadth of his rake to the hay spread before him; as he draws this, he leaves a line of straw which falls out at the side, and thus finds it needful to go back and rake the ground over a second time to make his work complete. The careful haymaker leaves sufficient of the breadth of his rake outside of the hay to catch all parting straws and leave none behind; with little increase of labor, he gathers all, and leaves the field with no loss of hay.

ECONOMY OF TIME AND FORCE.

The wise and intelligent ever economize in time and labor; they study and plan their operations in advance, and do their work well. When once done it is complete, and there is no necessity for doing any part of it over again. The ignorant and unwise act differently: they have not full comprehension of their purposes, nor of the way of executing them; their work is often incomplete; they leave parts to be done over. The careless shoveller spills some of his gravel on the ground, which must be again taken up and thrown. The unthinking ploughman leaves balks in the field; at much greater cost of time and labor, these must be turned over by the shovel or hoe. The awkward tailor needs to spend much time in altering garments because he has carelessly failed to fit the frame of his customer.

No small proportion of the laboring force of the world is expended in correcting mistakes, in compensating for deficiencies, in repairing the damages that arise from accidents, which are generally but another name for carelessness in somebody. A sagacious owner of steamboats on the Mississippi River, after long experience and observation in the management of this property and as master of his own vessels, said that all accidents are due to inattention, unfaithfulness, or ignorance somewhere. Sometimes they are caused by those in whose immediate management they happen and sometimes by those who preceded them: a boiler explosion may be due to the negligence of the engineer, or to the imperfect workmanship of the maker, or, still further back, to the one who prepared the iron; a carriage may be overthrown by the ignorance of the driver, the want of skill in the manufacturer of the vehicle, or the incompetence of the road builder; and if all who had had any part in the preparation of these means of transit had been intelligent in their occupation and faithful no accident could have occurred.

A skilful worker so arranges his exertions as to expend no force without producing a proportionate effect. He does his work at such times and under such circumstances as involve the least expenditure of strength; he takes advantage of opportunities, and makes them subserve his purposes. If he is a carrier, passing from place to place and returning, he takes from the first what is not wanted there and carries it to the second, where it will be of use, and returning he brings from the second what is not wanted there to the first, where it is needed. In this way he accomplishes a double purpose in each journey. But some thoughtless persons sometimes travel to carry matter from A to B, and return empty handed, and again they go empty handed from A to B, in order to bring matter from B to A.

Much of the work of the untaught and untrained is tentative: a guess or conjecture directs the effort, and the worker feels his way and determines whether he is right or wrong as he proceeds. He is consequently continually correcting his errors or suffering from them. A careless joiner cuts his mortise at random and his tenon in the same

uncertain way: it is accident if they fit each other; his doors, windows, and shelves, and their incasings, are subject to the same chance of fitting or unfitting adaptation.

COOKING.

Unfortunately, the preparation of our food, of the nutriment that is to be converted into our own flesh and made a part of our living bodies, is often consigned to the hands of the least intelligent, whose want of education and whose loose habits of observation and imperfect reasoning preclude precision of calculation and adaptation and exactness of proportion of materials; hence there is uncertainty in the results of their labors. Neither they nor their employers seem to expect that the bread and other mixtures sent from the kitchen will be suited to the wants and powers of the inner man with the confidence that they do that the preparation of the skilful tailor or dressmaker will be fitted to the outward form. With such cooks, chance controls the culinary processes, and the language of the housekeeper not infrequently acknowledges the power of this principle. If the food is prepared so as to be acceptable to the stomach and easily convertible into living flesh, she felicitates herself on her good cook, and her friends congratulate her on being so favored by fortune; but if, on the contrary, the bread is heavy, the pastry hard to be borne in the digestive organs, and the meats unfitted for nourishing the animal body, she offers the apology that the cook was unlucky, and this is presumed to be sufficient explanation of the unpleasant circumstances.

LABOR THE MAIN SOURCE OF WEALTH.

With small exception, all the wealth of the world is the creation of human labor, the product of muscular exertion. The original material elements of wealth in manifold forms are found abundantly in and upon the earth and its waters, but they are useless and have no value until their position, condition, and form or character are changed and adapted to man's wants by labor.

MINERAL ORES.

The mineral ores buried beneath the ground have no available value until they are taken out of the earth and turned through manifold processes to use. The laborer who digs the shaft to the mine adds his quota to its value, inasmuch as the ore, when made accessible, is worth more than it is when out of reach. The miner who loosens the ore with his pick adds another item to its value. The workmen who transport it to the surface, the men in the smelting furnace, every man who works upon it, from its natural condition as ore in its position in the earth to the last finish of the iron or steel products, adds his due proportion to its worth, and the changes in position and character produced by the labors of all constitute nearly all of that final value.

The bloom is worth more than the iron ore, the bar more than the

bloom, steel more than the iron bar, and the finished cutlery more than the steel; but to all this final value that of the original undisturbed ore in the earth contributes very little. Appleton's Cyclopædia (vol. ix, p. 584) says: "A bar of iron worth $5, it is stated, is worth $10.50 when made into horseshoes, $55 in the form of needles, $3,285 in penknife blades, $29,480 in shirt buttons, and $250,000 in balance springs of watches." It is not easy to determine what the ore from which this bar was made was worth when it was in the mine, before a shovel had been struck into the earth that covered it; probably a few cents only, or even a few mills, would have bought it. And this is all that unassisted nature contributed to this capital of over $3,000 in knife blades, $29,000 in shirt buttons, or $250,000 in watch springs.

WOOD IN THE FOREST.

Wood, as it stands in its natural position in the forest, has only a prospective value, as labor shall be added to it to convert it into fuel or lumber fit for use. A mahogany, rosewood, or black walnut tree must be submitted to many blows and pass through many changes from its living state before it becomes of practical value. The woodman cuts it down in the forest and adds his labor to its worth; the teamster hauls it to the railway or shipping place and adds another increase to its value; the shipmaster or railway company carries it to the place where it will be converted into articles of use, and to that extent increases its worth; the sawyer divides it into boards or parts of such shape and size as may be wanted; finally, the cabinet maker converts it into chairs, bureaus, tables, &c. The value of this wood in the living tree constitutes but a small proportion of its worth when manufactured into furniture and offered for sale in the warehouses.

HOUSES.

Buildings, public and private—churches, court houses, dwellings, factories, shops, stores, and others—constitute a large part of the capital of the nation; yet they owe a very small portion of their value to nature. The wood in the forest, the clay in the pit which supplies the material of the bricks, the stones, marble, slate in the quarry, the mineral ores in the earth—iron, lead, tin, copper—that are ultimately converted into nails, locks, hinges, roofing, pipe, &c., have a very small value in their natural state compared with their final worth when put together in the form of a building by the manifold and varied processes of human industry.

LANDS.

The value of wild, untouched land in the forest in this country is estimated to be $1.25 an acre. This, however, is its prospective value, for until the hand of man makes it accessible and improves it it is worthless; but when it is cleared and cultivated, when roads, canals, or rail-

ways bring it within reach of the civilized world, when population gathers around it, and society makes the place attractive, and a market is created within reach, the value increases with these added advantages, until it may be tenfold, a hundredfold, a thousandfold the original price.

LABOR BECOMES CAPITAL.

Through all these transitions from the natural condition of these elements of property to their finished artificial state, each successive process adds to the value: in each, labor is converted into capital; every judicious blow becomes wealth the moment it is struck. The woodman strikes his axe into the tree: if that blow is a part of the division of the trunk from the stump, the value of the tree is increased by it; when blows sufficient to cut the tree down and to divide the trunk and branches into firewood have been struck, they become capital, equal to the difference between the value of the standing tree and marketable fuel. So, also, all other labor that is properly applied to the wood—that of the teamsters who take it to the mill, of the sawyers who cut it into boards, laths, or shingles, of the carpenter who shapes, fits, and combines these into buildings—the blows and exertions by which the position, condition, or relation of the wood is changed and its worth increased are converted successively into capital.

It is manifest that, as human effort creates wealth, the more rapid the movements are made the greater the accumulation. The active carpenter drives more nails than the slow workman, and creates more value in a day. But it is only the judicious, well directed blow that becomes wealth. The blow that is struck on a nail in the line of its direction adds to its worth, for the driven nail is worth more than one outside the wood; but an oblique blow that turns the nail to one side adds nothing to its value, but, on the contrary, lessens it, inasmuch as a crooked nail is worth less than a straight one. When the blows of the woodcutter fall successively in the plane of their predecessors and enlarge the division, the worth of the wood is increased; but when they fall to one side or the other, without carrying the division deeper into the log, they leave no more wealth behind.

EFFECT OF EDUCATION ON LABOR.

The value that is created and added to matter by labor is in the ratio of the skill of the worker or the appropriateness of his exertions and the rapidity with which they are made. The degree of these is in proportion to the mental coöperation with the movements of the hands. When the mind is torpid, the hand works alone, and for want of a watchful guide it moves in an uncertain manner and with doubtful effect; but in as far as the mind is quickened by education, the perceptive faculties sharpened and the reflective faculties strengthened, the movements of the hands are directed to their purpose: they strike in proper direction and with appropriate momentum; all the force is

expended to advantage; none of the blows is lost; each one produces changes that add to the value of the material operated upon. Education, then, is the economy of force, and gives it a greater power to create value. It enables the intelligent and skilful to add more to the worth of matter than the ignorant.

The cost of educating a laborer—of setting him to thinking, and fitting him to expend his forces to advantage—is very small. The few years of youth, when the body is comparatively weak, the expenses for teachers, for books, &c., are but small sacrifices compared with the gain. The return in increased productive power is great and permanent. It is the difference between the skilful and quickly moving and the unskilful and slow workman, between the large and certain and the comparatively small and uncertain producer.

NATIONAL WEALTH.

The wealth and income of the nation is but the aggregate of the wealth and income of all its members. If a man adds to his private capital or to his power of production, the capital and income of the state are increased to that extent; if he loses or extinguishes any part of his fortune, or fails to earn, the same loss falls on the state. Individual wealth collectively is public wealth; personal impoverishment is public poverty: the total financial, physical, and mental power of a community is no more nor less than the sum of its elements. The body politic has then an interest in everything that tends to increase the productive power of the people. As education has this effect, by sharpening the perceptive and strengthening the reasoning faculties, as it sets people to observing and thinking, and thereby enlists the quickened and energized mind as a coöperator and aid to muscular action, and enlarges men's capacity of creating value, so it is both the interest and the duty of the government to see that none be allowed to enter the responsible period of life without this means of doing the best for himself and for the state.

The late Earl of Carlisle, a man of unusual acuteness of observation and of generous, comprehensive sympathies, travelled several years ago through most of the States of this country. He took great pains to inquire into the domestic and social condition of the people, their education, their habits, and manner of working and of living. After all his experience and study here, he said to a friend: "If every man and woman in your country were educated as are the natives of Massachusetts, there would be no telling the power and the wealth of your nation."

ILLUSTRATIVE EXAMPLES.

Specific illustrations of the facts and conclusions of the analysis presented in the foregoing paper are afforded by the answers to a series of questions addressed in 1870 by the Commissioner of Education to a very large number of observers, workingmen, and employers who had superior opportunities for studying the effect of education upon the productiveness of labor.

The first question related to the opportunities of the person interrogated to judge correctly, so as to be able to answer the remaining questions, which were as follows:

2. Have you observed a difference in skill, aptitude, or amount of work executed by persons you have employed arising from a difference in their education and independent of their natural abilities?

3. Do those who can read and write, and who merely possess these rudiments of an education, other things being equal, show any greater skill and fidelity as laborers, skilled or unskilled, or as artisans, than do those who are not able to read and write? And if so, how much would such additional skill, &c., tend to increase the productiveness of their services, and consequently their wages?

4. What increase of ability would a still higher degree of education—a knowledge of the arts and sciences that underlie his occupation, such as a good practical knowledge of arithmetic, book-keeping, algebra, drawing, &c.—give the laborer in the power of producing wealth, and how much would it increase his wages?

5. Does this and a still further acquisition of knowledge increase the capacity of the workingman to meet the exigency of his labor through new methods or improvements in implements or machinery? And if so, how much does this inventive skill add to his power of producing wealth?

6. Would you generally prefer or not a person who has been trained in the common school for the ordinary uses for which labor might be employed over one who has not enjoyed that advantage?

7. Whom would you, as an employer, choose for positions of trust, such as foremen or superintendents: persons unable to read and write, or those having the rudiments of education, or those possessing a superior education, all other things, such as skill, strength, and fidelity, being equal?

8. What do you regard as the effect of mental culture upon the personal and social habits of persons who have been in your employ? Do they, as a class, live in better houses or with better surroundings? Are they more or less idle and dissipated than the untaught classes? How will they compare, for character, for economy, morality, and social influence, with their fellows?

ANSWERS OF EMPLOYERS.

The following replies, selected from the great number received, will show the kind of material from which the synopsis was made.

General Samuel Thomas, Zanesville,[1] Ohio, who had employed five hundred common and skilled laborers, such as were needed to produce merchantable iron from the ore and the coal in the mines, replied:

2. A marked difference, and easily observed by visitors.

3. None of our officers doubts the superiority of men who can read and write, for common labor, over those who cannot. Men who have some education require less

[1] Now of Columbus.

supervision. The saving to employers in this way alone amounts to fully 10 per cent. Employers suffer constantly from ignorant employés doing their work poorly, and doing less of it for the same wages. This amounts to fully 10 per cent. more.

4. A knowledge of chemistry, geology, working of mines, and, in fact, all the physical sciences, would add to the efficiency of all laborers in our employ. Not that I expect all to advance to the higher departments; but, with their common school education, they should have some knowledge of the sciences I have named. In many ways men with such advantages could produce more in twenty-four hours with no more labor, and, as a consequence, command higher wages.

5. All the labor saving improvements are the result of education awakening the mind to struggle for something to save much and throw the labor upon machines of iron and wood, so far as I have observed in our works. The ignorant man imitates some one else, and, if he is watched, continues to do so day by day, and by these means earns his living; but he is a great tax upon capital. We pay 20 per cent. more wages to a skilled laborer in our employ, with an education that makes him worth it to us, over an uneducated man struggling to fill the same kind of place, but not worth so much.

6. I should much prefer a man with some education; the more the better.

7. I would not employ as a superintendent or foreman a man who could not read and write; all other things being equal, I consider a man better and better qualified for supervision of labor as his education increases.

8. The man with some education or some mental training shows his superiority over the ignorant man at home and by his social and moral influence to a greater degree than in the shop or at labor. He is more moral, less disposed to be vicious, more industrious. As a class, they live in better houses, have better surroundings, and seem to be happier men in every way.

Mr. John W. Browning, bricklayer, president of his trades union and secretary of the National Labor Union, New York City, replied as follows (his general statement was intended to answer several of the questions):

I have not infrequently worked with members of my trade who have labored years at the business and yet remain ignorant of the simplest though very important materials in the building line. For instance, anchors are fastened to every fourth or fifth beam, and must be, or should be, well secured in the wall, by which means there is a bond between the two walls, or four walls, as the case may be; the walls are strengthened, the building is firmer, and less liable to settle. The men I allude to build around and over these anchors, wondering what they are there for and paying no regard to security. Such mechanics are half their time unemployed, and they attribute it to hard luck, or something of that kind; but they do not seem to take heed and get on, and they become discouraged. But it is not so with the mechanic who understands the theory of his business, or who has studied sufficiently to discipline his mind. He understands or will understand that the anchor must be set snug in the wall. He knows why a fireplace is built on the outside of a gable. He knows what a keystone is for. In short, he knows the uses of the materials and the designs of the specifications, and he is able to earn his wages, and in many cases superior wages, besides enjoying steady employment during the building season. The latter class of our trade are the students of our business; they lighten their labors and the labor of others by new inventions. A year ago 1,000 brick a day was considered a fair day's work. It is the basis of estimate at the present time; and yet an ordinary bricklayer can lay from 1,500 to 2,000, while I have known men to lay 3,000 a day on a twelve-inch wall. I think any one who has adopted any means to discipline the mind, either by studying at school or elsewhere, is preferred to one who never gave himself to reasoning.

7. It depends on the business to be transacted. In my business a foreman, superintendent, overseer, or journeyman cannot know too much, and those who are trusted with the plans are skilled and as intelligent as can be had.

8. I find men who are in the habit of reading the daily papers soon become well informed. They take an interest in passing events. This brings respect and then self-esteem, pride, and all that; they are more industrious; they can account for change. By the experience of the past they judge the future; they are better providers; live as well as their means will allow; they are always trying to better their condition, and they have an influence among their associates. I am in favor of free day schools for children, free night schools for apprentices, free libraries, and better rooms for all who wish to avail themselves of their benefits, believing that it will add to the industry of the nation, elevate society, and make us morally and religiously a better people and better citizens.

A. J. Mundella, esq., member of the British Parliament for Sheffield, England, who had employed a large number—as many as three or four thousand at a time—in the middle counties of England, as knitters, weavers, finishers, and machinists, replied as follows:

2. I would say that an educated man invariably acquires a knowledge of his work with greater facility and executes it with less cost of supervision than an uneducated man.

3. The mere rudiments I do not rank very high. If a man can barely read and write he has not attained to much. To read and write fluently is a great advantage in conducting the ordinary affairs of life. Evidence has been given before the British Parliament from my own district showing that some grave mistakes in chemical processes, such as bleaching, dyeing, &c., are constantly occurring through the ignorance of the workmen, they not having the ability to read writing. I have often witnessed natural powers in a person entirely uneducated which would have been turned to the benefit of himself and his employer if he had only received a thorough elementary education. I have recently seen, in Massachusetts, Englishmen whose wages their employers would have willingly doubled by appointing them overseers if they had only been educated sufficiently to keep accounts. I think it is impossible to estimate how much education would increase the value of their services. If the labor is merely mechanical, such as tending a machine that is making so many revolutions per minute, it requires little education to perform it; but if the labor is something where the whole manipulation depends upon the intelligence of the workman, it is a very different thing. The division of labor in England is so minute that the artisan who begins and continues the same work for years becomes a mere machine himself. The value of education, both to the workman and employer, is something that it is exceedingly difficult to estimate. The educated man will better understand the influence of those economical laws upon which his art depends than the uneducated; and my observation leads me to the conclusion that many of the strikes among workmen are the consequence of gross ignorance on their part, and that almost invariably the outrages and intimidation resulting from strikes are the acts of ignorant men. The more flagrant cases of violence and intimidation in England have been in connection with those trades unions where the education of the workman has been grossly neglected.

4. I believe that technical education is of great importance; that the success of Switzerland and Germany in manufactures, and their superiority over others for the last thirty years, has been owing to the excellent elementary education they have given to their workpeople, to which has been superadded, with great advantage, in my opinion, a large amount of scientific and technical education. Art training in England has exerted a marvellous influence in improving the designs for every description of manufacture in which taste is required, and consequently in increasing the demand in foreign countries for such manufactures. For example, the result is seen in the better styles of carpets, laces, dress goods, crockeryware, furniture, ornamental iron work, and in every manufacture where decorative art is of value. I think the great want in this country is such education. I have known instances where a youth who has received art training has been able at twenty years of age to

earn more than all the rest of the working force of his father's family. There is one case among my own workmen where such a lad is getting very high wages, and the effect is that the whole household is elevated.

5. The greater the improvements in machinery the more intelligence is required on the part of the workmen who manipulate them. It has been found in England that for working the improved agricultural machines a higher class of intelligence and skill is required to manage them than the old peasantry possess. An intelligent workman will always produce a larger amount of work from a clever machine than an ignorant man can, and will keep his machine in better working condition.

6. I would, certainly. In all classes of labor with which I am acquainted a person receiving the education which is open to him in the common schools of America would be infinitely preferable, in all respects, to a workman whose early education had been entirely neglected.

7. Certainly, I should prefer those who have had the very best education for such situations. In my opinion, a youth cannot be too highly educated for business purposes. I believe there can be no greater mistake than the old and common error that a boy may be made above his business by education.

8. My experience of workmen, on the average, is that the better a man is educated, and the greater the intellectual resources he possesses, the less is he disposed to sensual indulgence and the less inclined to any kind of intemperance and excess. Those trades most characterized by intemperance in England are those wherein the workmen employed have the least education. I have employed in various departments of my own business intelligent workmen earning lower wages than ignorant men employed in coarser branches of the business; and the intelligent man educates his children, lives in a comfortable house, and has much refinement and many pleasant surroundings; whereas the ignorant man, with higher wages in some other departments of labor, is more addicted to intemperance, his wife and children are worse clad and worse cared for, and his home, in all respects, is less comfortable. Perhaps the best illustration of this would be the contrast between a clerk earning £80 a year, who is a gentleman in education, tastes, and surroundings, and an ignorant laborer earning the same sum. In England, intelligent workmen are generally the men who are distinguished for economy and thrift. They take the lead in all useful associations; they are the managers of the mechanics' institutions, the teachers in the Sunday schools, and the founders of coöperative societies.

Cyrus Mendenhall, president of the Kenton Iron Company, Newport, Ky., said:

I rejoice that the official attention of the General Government is being turned to the subject of your inquiries, and cannot but hope that sooner or later it will result in some practical benefit to the country. The want of a higher grade of instruction in the science of their business for the managers of the different departments of the manufacture of iron—say in mensuration, geometry, the mechanical powers, hydraulics, hydrostatics, chemistry, &c.—has been severely felt by proprietors. The want of competent men in such positions often, I believe, makes the difference to owners between success and failure.

In illustration or justification of my replies to your Nos. 3, 4, and 5, I will take the liberty of giving you an instance or two coming under my own observation: An engineer at our blast furnace near Wheeling—a man who had previously been intrusted with important machinery and run an engine successfully when all was right, a temperate and well meaning man, but without education, except to read and write and make the simplest arithmetical calculations—was directed to place a hand forcepump at the river and have water driven up to the tanks, located 60 feet above the river level; a half day, with two assistants, was spent in fixing the pump on the river bank 40 feet above the water, with a soft hose from the pump to the water and another from the pump to the tanks. He did not know why he was unsuccessful in getting the water into the tanks. It was difficult at that time (owing to the war) to replace him with

a better man, and he was left in charge of the machinery when the furnace went into blast. The machinery was vertical, the steam standing above the blast cylinder, the whole extending in a line some 27 feet above the foundation. Considerable vibration at the top was found to result from the movements of the machine when put to the necessary speed. Instead of remedying this by guys from the top to the strong surrounding walls, during a fortnight's absence of the superintendent the engineer applied one timber-brace, setting the top over the whole, or little more than the whole, amount of the vibration, thus forcing it out of line, and causing such injury to the inside of the cylinders, from cutting of the metallic piston heads, that the blast cylinder (and I think the steam cylinder also) required to be taken out and sent to the manufacturer, a hundred miles distant, and the whole put in repair, at a cost of $2,000. This, with the damage arising from stoppage, was more than sufficient to have paid the wages of a first class man, instructed in the "science" of his business, for two years. That man is still employed in the same position at a blast furnace on the Ohio River, above us.

Now for another kind of a man. In a part of the country where the services of a railroad engineer were very difficult to procure as well as very expensive, it was necessary to construct two or three curves to a definite radius in a short railroad extending from the coal mine to the main line of railroad. An employé who knew nothing of engineering but had mastered the first six books of Euclid, by an evening's study and application of the geometrical principles involved, discovered the very rule and method used by the best engineers, and next day, with the aid of a transit, located the curves with correctness and dispatch. How much was such a man worth above an ordinary hand!

Mr. S. P. Cummings, of Boston, Mass., secretary of the Massachusetts Grand Lodge of the Order of St. Crispin, chairman of the executive committee of the International Labor Union and of the State labor party, said:

2. The difference is very marked, indeed. Educated labor is by far the most skilful and faithful. The value of skilled labor over unskilled, both as to productiveness and compensation, is fully 20 per cent.

3. A knowledge of the subjects would increase production and wages fully 20 per cent. over the present, inasmuch as the effect would be to stimulate laborers to produce better articles, and consequently increase their means of enjoyment.

4. It does. It is difficult to determine. I should say 20 per cent., as the result of my observations in fifty cities and towns in this State.

5. Most certainly he would by intelligent employers.

6. I have a large personal acquaintance among manufacturers, and they generally agree that their foremen's money value depends largely on the education they possess. To this rule there are some exceptions, of course.

7. Inventive culture, as a rule, increases the self-respect and improves vastly the social habits of workingmen.

8. Educated workingmen live in better houses, have better surroundings, and are in all respects superior to those whose education is limited and defective. They are less idle and dissipated than the untaught classes. As regards economy, morality, and social influence, educated laborers are preëminent among their fellows. I may add one general observation, that, while I was foreman of a shoe factory employing forty hands, I always got better work, had less trouble, and, as a general rule, paid better wages to the more intelligent workmen. The more ignorant hands were continually giving me trouble, either by slighting their work or failing to appear in a fit condition to work after pay day. They were, many of them, coarse and vulgar, drank liquor, grumbled, and were in all respects disagreeable.

I am so well satisfied of the inestimable value of education to the laborer that I would make it compulsory. No man should be allowed to go into the arena of

life until he has at least a decent English education. A class of uneducated laborers in a community or State is an ever present element of danger and injury not only to labor but to the State itself; therefore, sir, I am much pleased to see that you are collecting statistics for the information of the Government and people on the subject.

Miss Martha Walbridge, of Stoneham, Mass., head of the Daughters of St. Crispin (trades union), replied:

2. I unhesitatingly reply in the affirmative to the first question. As to how much such additional skill would increase the productiveness of their service, &c., I would state it certainly as much as 20 per cent.

3. The ratio is certainly great, and I am so sanguine on this subject that I would state the increase of ability would give the laborer double the power. As to what knowledge would be most practicable, I would offer, as a substitute for book-keeping and algebra, natural and intellectual philosophy; and my observation teaches me that these sciences are absolutely essential to the welfare and progress of the laborer.

4. Most emphatically it does; for who so stupid that will not exercise the little wit he may have to economize his physical strength? How much this inventive skill adds I feel incompetent to judge.

5. Certainly, unless the employer be a thief or a rascal.

6. Rarely have I known an illiterate person employed as foreman, and when such cases have come under my observation, the persons thus employed have never been able to retain such positions, on account of their incompetency.

7. Mental culture has a salutary effect on the habits of working people. It has a direct tendency to morality and refinement. It assuredly develops itself in a desire and healthy effort to secure for themselves and families better homes and intellectual enjoyments. A sense, once attained, of the true dignity of manhood and womanhood is seldom if ever lost sight of, but retained and fostered as the poor man's one only priceless jewel, and this sense and noble desire make him an honest and respected citizen.

ANSWERS OF WORKMEN.

The replies of the workmen to the same series of questions were of far more interest than those of the employers, because presenting the subject in a greater variety of views.

Increased skill and aptitude, according to the testimony of the workmen, almost universally results from education; one remarks that in the business of iron molding, where generally it is least supposed to be of consequence, this result is to be most observed.

As to whether ability to read and write conduces to increased fidelity and skill, and also to increase of wages, opinions varied, though most agreed that it would increase them from 10 to 20 per cent. One great value of so much knowledge is, that those able to read the facts for themselves are not apt to be so unreasonable in their demands or to engage in strikes; but, knowing the markets, know that increase of wages at a given time is impossible. One wrote that "How cheap will you work?" not "How much do you know?" was the question asked by certain employers, and his opinion was that knowledge has little to do with wages. Yet the same authority, in replying to the next question, "As to how much more knowledge will increase wages," bore full testimony to the value of an acquaintance with arithmetic to miners, the class of whom he spoke. So it seems that in this labor to simply read

and write is not enough; and his answer, seemingly undervaluing this knowledge, is but a strong plea for more education. Most treat fidelity, faithfulness, and honesty as matter independent of mere knowledge of the rudiments of education; as moral qualities which are possessed in as high a degree by some who know nothing of the rudiments of education as by those who do. One argued that education does not increase the fidelity of the laborer, because education enables him to appreciate the wrongs inflicted by capital upon labor, and therefore will not be likely to increase his "fidelity" to those whom he considers his oppressors.

To the query as to the effect and value of still higher education, a knowledge of the sciences that underlie his occupation, the answers were varied, and treated upon nearly all the related questions in the contest between capital and labor. One replied that it would enable a mechanic to take his own contract and receive all the profit coming from his labor; in other words, though the writer does not say it, it would transfer him from the rank of those who labor for wages to that of the employer. Another thought it would increase the wealth of the employer but not of the laborer.

Another found a drawback in that a youth with this education, fitted to make him a superior workman, thinks it menial to learn a trade; this idea is expressed in different forms by several.

Another stated that a thorough knowledge of the material in which an iron molder works, for instance, would enable him to produce the same results with one-third less labor; but would not necessarily increase his wages. A distinction was drawn by several between the additional wealth producing power and the increased wages of the laborer.

In answer as to whether the increase of inventive skill keeps pace with increase of general education, one stated that between the years 1866 and 1870 the production of a given number of mechanics at least doubled from the improvement in tools. Another says: "It is well known that all labor saving machinery is the product of the brain of the educated laborer; but for forty years it has resulted in neither less hours for labor nor less physical labor to the laborer. The educated laborer of to-day works as hard and as many hours as the laborer forty years ago—the 'labor-saving' being money only to those who labor not."

All the replies admitted the value of education to any one with inventive faculties, though not conceding the whole credit to the fact of education alone.

As to educated persons being preferred for superintendents, foremen, &c., most of the replies concurred that they are, but assertions were made of cases to the contrary. Some employers select men of brute force to dominate over their laborers, but the emphatic bitterness with which these facts were stated would seem to show that they are exceptional.

As to the effect of education and culture upon the position and influence of the laborer, the testimony was confirmatory of its value. One believed that the large proportion of criminals are children of ignorant parents; another pointed to the fact that but one in ten of the convicts of New York State is from the mechanic and laboring classes; another found great advance in the condition of the laborer through the spread of education, and looked to the reduction of the hours of labor to the lowest possible amount as the only hope for increased refinement of that class; another considered this reduction of the hours of labor "the great question of the day;" another would have every child compelled to go to school, till the age of sixteen years, a portion of each year at least; another admitted the great power of education in elevating the class of workmen in all respects, but said: "All is lost in the knowledge that a corrupt government legislates everything for capital and nothing for honest labor."

ANSWERS OF OBSERVERS.

From the observers these questions drew forth very different replies from those given by the actual employers and laborers, not in regard to any of the technical questions as to the general improvement produced by education, but in the reflections induced and by their deductions from the facts.

The question of the kind of education to be given was earnestly discussed, and the omissions which they charge to the common school and high school system were forcibly delineated. The absolute need of technical schools, of furnishing education closely related to the industries of all persons who must work, was strongly presented.

From the testimony thus given by various classes from all sections and among many industries, it is clear that the value of the common laborer to the community at large is positively increased and his power as a producer of adding to the common stock of wealth is materially enhanced by the education given him as a child in the common school. The increase of wages he will receive on account of his knowledge is put at various figures, averaging about 25 per cent. This increase of value arises from the facts (1) that the laborer is more readily instructed in his work; (2) that he needs less supervision; (3) that he does his work to better advantage, and therefore produces more in a given time; (4) that he is less liable to join in unreasonable and unseasonable strikes; (5) that he is more industrious; (6) that he is less dissipated; and, lastly, that he is less liable to become an expense to the commonwealth through poverty or crime.

That a knowledge of the sciences that underlie the occupation gives greatly increased value to its possessor as a laborer is agreed on all hands. It does this (1) by enabling him to avoid dangers—in mining, for instance—to which ignorant men are exposed; (2) by enabling him to detect and remedy difficulties which else would cause expense or delay; (3) by enabling him to discover shorter and simpler methods of work,

thereby increasing his powers of production; (4) by stimulating his qualities of contrivance, so that he adjusts and modifies the tools or machines which he uses, and becomes eventually an inventor of simpler and better machines, thus increasing the wealth producing power not only of himself, but of his fellow laborers; in this direction it is estimated that his value is increased 100 per cent., while in certain exceptional cases the gain is incalculable. But after admitting all these arguments in favor of the increased value of the laborer who possesses this higher education, it is clear, from the evidence of all, that the chief value and greatest advantage of such increased knowledge arise from the fact that it advances the well being of its possessor. By virtue of increased education he commands higher wages for his services, and also adds largely to the common production.

Looking merely at its economic value, these answers go to prove that the community receives an ample return for whatever of money it invests in the education of its citizens. Since this is demonstrated, it adds force to the arguments now being urged for technical education and special training in the several industrial fields; for, if the teaching of the simple rudiments and general instruction give so rich a return to the state, how much greater and more certain results may be relied upon from special training for special labor. This question, which has been so fully tested by the technical schools of the European governments, is attracting attention here, and we are not surprised that dissatisfaction is openly expressed that the high schools furnish no opportunity for training in the practical industries of life.

The argument, as stated here, rests on an entirely different basis from that presented by the professional man, mortified that his country possesses no schools for professional training equal to those of Europe. This is the plea of the citizen who finds in the higher branches of the public schools an utter failure to give that training which fits for varied practical occupations. The point is well taken, and merits consideration. It is a plea for artisan, art, industrial, and scientific schools as a part of the common school system—a plea based upon the economic value to the state of such training of its citizens.

At this point, the remarks of Dr. Lyon Playfair before the British Social Science Association are opportune. This English savant advocated the training which shall best fit a man for his place in life. After referring to certain English schools and to ancient law requiring compulsory education for certain classes, he said:

This main idea of fitting a man for his work was vigorously supported by our old reformers. John Knox held firmly by it, especially in his scheme for secondary education, which, unfortunately for Scotland, was never adopted, though his plan for primary education was. In the former he announced that no boys should leave school till they had devoted a proper time to "that study which they intend chiefly to pursue for the profit of the commonwealth." This is the old conception of the object of education and reappears at the present day under the modern garb of "technical education." All the reformers urged its necessity, especially Luther and Melancthon. Most

European states have held fast to the idea with more or less of development, but it has vanished utterly from our English schools.

Our primary schools, on the whole, do not teach hi[illegible] than a child of eight years of age may learn. In our class of life, our children a[illegible]re such knowledge as a beginning; with the working classes they get it as an end. What an equipment for the battle of life! No armor plate of knowledge is given to our future artisan, but a mere thin veneer of the three R's, so thin as to rub off completely in three or four years' wear and tear of life. * * * Under our present system of elementary teaching, no knowledge whatever bearing on the lifework of the people reaches them by our system of state education. The air they breathe, the water they drink, the tools they use, the plants they grow, the mines they excavate, might all be made subjects of surpassing interest and importance to them during their whole life; and yet of these they learn not one fact. Yet we are surprised at the consequences of their ignorance. A thousand men perish yearly in our coal mines, but no schoolmaster tells the poor miner the nature of the explosive gas which scorches him or of the afterdamp which chokes him. Boilers of steam engines blow up so continually that a committee of the House of Commons is now engaged in trying to diminish their alarming frequency, but the poor stokers who are scalded to death or blown to pieces were never instructed in the nature and properties of steam. In Great Britain alone more than 100,000 people perish annually and at least five times as many sicken grievously out of pure ignorance of the laws of health, which are never imparted to them at school; they have no chance of learning them afterward, as they possess no secondary schools. The mere tools of education are put into the hands of children during their school time without any effort being made to teach them how to use the tools for any profitable purpose whatever; so they get rusty or are thrown aside altogether. And we fancy that we have educated the people! Our pauperism, our crime, and the misery which hovers on the brink of both, increase terribly, and our panacea for their cure is teaching the three R's. The age of miracles has passed by, and our large faith in our little doings will not remove mountains. It is best to be frank. Our low quality of education is impoverishing the land. It is disgracefully behind the age in which we live and the civilization of which we boast, and, until we are convinced of that, we cannot be roused to the exertions required for its amendment. This is no new complaint, and has been long ago made by far higher authorities than myself.

Though Dr. Playfair spoke directly to an English audience and aimed therefore to illustrate English necessities, there is no one who has examined the relations of labor and education in the United States, however superficially, who will not acknowledge the applicability of his criticisms to our own circumstances.

The question of the hours of labor, of the relations between capital and labor, of the alleged discrimination in legislation in favor of capital and against labor, all came up in varied forms in the answers to the Bureau inquiries; they showed an activity of thought among the workingmen which will require to be met by intelligent argument, if we would avoid in this country that ever threatening conflict between the producing and capitalist classes to avert which is occupying the thought of the ablest minds of the Old World.

These questions cannot be ignored, and the only safe solution of problems so complex and so vital lies in the general dissemination of education among all citizens of the state, so that the capitalist shall be taught as well as the laborer (and in this country the classes and terms are continually interchangeable: the laborer becoming capitalist, and often by sudden reverse of fortune the capitalist becoming laborer), and all shall

e to see that there is not necessarily antagonism between these fellow kers; for the interests of the laborer rest everywhere upon capital, ch is nothing but the sum of surplus labor, and that capital is vitally rested in the improvement, intelligence, and prosperity of the laborer. o short sighted, grasping capitalists and ignorant laborers this often ns the reverse of the truth, but the repetitions of history again and in demonstrate its unchangeable verity. As labor emancipates and ıs itself, health and prosperity come to the nation; as it is enslaved owned, the capitalist becoming stronger and the laborer weaker, ıry increases and the semblance of prosperity deceives the nation. ·iew of the gravity of the interests at stake in the adjustment of cation to the necessities of the people, it becomes us to bring the ıle subject under the widest and most correct observation and exam- ıion both as regards facts and opinions, that truth may have a fair nce at every honest mind and that correct ideas of what education is of what its benefits are to all races and classes may be universally ıeminated.

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 4—1879.

TRAINING SCHOOLS OF COOKERY.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1879.

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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., October 4, 1879.

SIR: Among the efforts to modify American education in the direction of industries, the promotion of instruction in household economy and cookery is meeting with special consideration. Mrs. S. A. Martha Canfield, charged with the care of subjects of this class in this Office, calls attention to the increasing correspondence in relation to the subject. The letters received are generally from persons who are devoted to the promotion of the welfare of mankind, and who have become alarmed as they have observed more closely the extent and serious character of the evils caused by bad cookery; this feeling has been emphasized by the distress which was caused by the late depression in business, and they desire more information of what has been accomplished by instruction in this subject, especially in Europe, which this Office has peculiar facilities for obtaining. Their work in promoting this subject is largely gratuitous. They ask this Office to publish the facts in one of its circulars of information, claiming that in a great measure our educational ideas are responsible for the evils to which they point. The reasonableness of this demand cannot be doubted, and certainly the question of instruction in cookery should have the fair and considerate treatment of educators.

Among many letters received by this Bureau which, setting forth the evils of the domestic and social condition of our people and the widespread conviction that the remedies must come from our systems of education, contain valuable suggestions of improved methods, I call special attention to the following, written by Mrs. Harriet N. Noyes, chairman of the industrial committee of the Young Women's Christian Association, Boston. Mrs. Noyes says:

"Even in Northern New England, with which I am most familiar, the limitations of a rigorous climate, the rarity of good vegetable gardens and well kept poultry yards, and more than all, perhaps, the prevalent lack of pride and interest in attractive homes and generous tables, are influences contributing largely to make the household fare limited, uniform, and uninviting, and to increase the meagreness of physique, consumptive tendency, and general ill health of our New England women. This is more manifestly injurious to the women from their indoor habits: the family life goes on for the most part in the kitchen; even in summer the house itself is blind-shut, fly-barred, and never, except on cleaning days, fully opened to light, if indeed to air.

"There are many exceptions to this statement, but in general it is true of the farm and village homes. There is also a woful absence of the social relations and general culture which ought to exist among so intelligent a people. Not only the tables, but all graceful and gracious hospitalities, all privileges of the best scholarliness and refinement, the inspirations of beautiful living in the country, which should have one central association, are meagre and insufficient; and suggestiveness on all these lines may well come into the work which aims to improve the conditions of living among us. It is a transition period; it is doubtful if the changes have brought us more than they have taken away. The enterprising and vigorous are stirred to seek other fields, the commoner sort are unsettled and discontented, and go their ways in a spirit unfavorable to making the most and best of things at home. There are also many exceptions to this statement. There are villages where a single group of a wealthy family, as the Fairbankses, at St. Johnsbury, Vt., has made a community alive in everything best: a thorough school, standing high, the best college examinations; a highly creditable beginning in art, a good library, lovely homes, and an atmosphere cherishing to every good thing and to the development and growth of every gift and talent at home.

"In our larger towns and cities, women are saying their say on almost every topic save that of good housekeeping. There are many women who make their homes a paradise of rest and comfort, but their voices are not heard in the land; if a good apostle of homes came among them, they would rally to her support, I think. They constitute the body of women of influence, but they need a centre for influence on the country about them, in lectures and associations in behalf of good homes.

"I have here mentioned some influences which will, I think, combine to forward the good work of housekeeping lectures in the country.

"In our cities the women's educational associations, unions, &c., and the young women's christian associations are ready to indorse and assist in every practical effort for the better instruction of young women in housekeeping. Here, in Boston, Miss Parloa is doing an excellent work in a cooking school, both in itself and in showing the doubtful how the work can be profitably and successfully done.

"We need a free cooking school after this method; we need also some preparatory work done in the public schools: simple talks to girls on all home matters, on all ways in which girls may help to make homes better.

"Miss Cummings, teacher of sewing in the Winthrop Public School in this city, is doing a most excellent work. Many of the little girls are from the poorest homes and begin in the most rudimentary fashion, learning to hold a needle and to set stitches. In the highest class cutting and fitting are taught, the teacher having simplified for the purpose Taylor's system. At the spring exhibition of 1878 over seven hundred

hand made garments were exhibited. Girls of thirteen or fourteen were very neatly and tastefully arrayed in garments which were every one of their own fitting and making. Only one hour twice a week is allowed to each room for learning to sew, and I am told that the principal, who was not at first favorable, now thinks that the whole work of the school has been improved by it. I think that the same time might also be again advantageously taken for elementary lessons in housework—and without disadvantage to 'analysis' and 'perspective.'

"By such practical training we shall counteract the discontent with their condition which many of the poorest girls acquire. So long as their education is purely theoretic, they are made ambitious without definite notions of practical ways by which they may improve their conditions in their homes. They have no opportunity in the poorest homes to form the habits and to acquire the character of tastes which will fit them for the positions to which their good book education would entitle them: we need a girls' high and normal free housekeeping school."

Professor Youmans, repeatedly recurring to this subject in the Popular Science Monthly, says:

"Of the importance, the imperative necessity of this movement, there cannot be the slightest question. Our kitchens, as is perfectly notorious, are the fortified intrenchments of ignorance, prejudice, irrational habits, rule of thumb, and mental vacuity; and the consequence is that the Americans are liable to the reproach of suffering beyond any other people from wasteful, unpalatable, unhealthful, and monotonous cookery."

He also quotes the remark of Count Rumford:

"The number of inhabitants who may be supported in any country upon its internal produce depends about as much upon the state of the art of cookery as upon that of agriculture; but, if cookery be of so much importance, it ought certainly to be studied with the greatest care: cookery and agriculture are arts of civilized nations—savages understand neither of them."

For the reasons mentioned, I have had the following summary of information prepared and submit the same for publication.

I am, sir, very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

Hon. C. SCHURZ,
Secretary of the Interior.

Approved and publication ordered.

C. SCHURZ,
Secretary.

INTRODUCTION.

But, in my opinion, a wife who manages her share in the household matters well, has as much influence as her husband on their prosperity. For, as a rule, it is the labor of the husband that brings in the money of the family, but the judgment of the wife that regulates the spending of most of it. And whilst houses in which these matters are well managed increase, those in which they are ill managed decrease in prosperity.—*The Economist of Xenophon.* (In Ruskin's Bibliotheca Pastorum.)

Americans are universally considered a prosperous people, and as a nation we pride ourselves upon the ease with which we acquire wealth. But the money we earn so easily we spend carelessly; prudent thrift is a rare quality, and the absence of it is often in no slight degree the cause of much of the financial trouble from which we suffer.

The fact that national prosperity is so largely dependent on domestic economy invests the subject with a national importance and claims for it the earnest consideration of those concerned in education. Within the last few years much public attention has been directed toward this matter and an increasing number of people now are urging the establishment of schools for practical industrial training. They demand that the curriculum of our public schools shall be so modified as to substitute, for some of those higher branches of literary education which they assert to be comparatively valueless in promoting the future welfare of the children, training in mechanics and practical science for boys and in domestic economy and cookery for girls.

They ask, Why teach our children branches of chemistry and physiology, for which they can have no practical use, and neglect to instruct them in the chemistry of food and in the physiology of nutrition? They affirm that the close relation existing between health and the food we consume daily is not sufficiently well understood; they point to the fact that a sense of repletion after eating is too often regarded as an evidence of nourishment, and declare that they have been slow to acknowledge the great truth that "food is force." Now, at least, the public has become aware of the fundamental importance of this fact, and there is a general demand for more intimate knowledge of its bearings upon our national health and prosperity and for some definite system of imparting that knowledge to the rising generation. The question of teaching children the virtues of thrift and temperance as they are taught the rudiments of literary education is now a paramount one.

With all our facilities for producing the luxuries of the world, as a nation we are ill fed, and in some localities half starved. The blame of this lamentable fact rests, it is affirmed, in no small manner with those

in charge of the education of our youth, which practically ignores the necessity for training girls in the principles of domestic economy and by its influence fosters the idea that the performance of domestic labor by the head of the household is degrading. Great honor should be accorded the institutions and teachers that endeavor to correct these pernicious tendencies, for the exigencies of life demand that the two educational systems, the intellectual and industrial, should each have due recognition. Already there are increasing evidences of the national recognition of this fact.

These ideas are by no means radical or novel. They were urged upon the English council of education in support of the request, recently granted, for money from the public educational fund to provide for special instruction in cookery in the English board schools.

The fact already cited, that such instruction necessarily involves some knowledge of chemistry and physiology, places it upon the plane of rational and scientific education, in which position it is held by its vital bearing upon public health, comfort, and general social economy. This view of the case is the accepted one in Europe. In America, individual efforts have demonstrated the possibility of combining in a practical and popular form of instruction certain chemical and physiological principles with the general exercise of the culinary art.

TRAINING SCHOOLS OF COOKERY.

In Europe, instruction in domestic economy forms a considerable part of a young lady's education. In Germany, the mechanic, the well-to do tradesman, and the heads of wealthy and noble families provide for the home training of their daughters. Among the poor and middle classes what is known as the "exchange system" prevails to a great extent; families related to or acquainted with each other exchange their children for certain periods, having in view the specific object of training in some department of industry. The daughters of the wealthier families are placed in the households of their own class for similar instruction, for which a stated fee, varying from $200 to $250, is paid, together with all personal expenses. The young ladies, under the immediate supervision of the lady of the family, learn all branches of housework, taking part in the daily routine of marketing, cooking, and serving food, managing servants, and superintending household expenses; in fact, each pupil is fitted by practical experience to become a *Hausfrau*, while she is always addressed as "Miss" and is treated with deference and consideration by her instructors. The daughters of nobles receive similar training, save that it is given in a castle or palace. In England, the pupils of the London, Edinburgh, Liverpool, and other institutions belonging to the Northern Union of Schools of Cookery, come from all social grades, as do the scholars of the New York Cooking School.

NATIONAL TRAINING SCHOOL FOR COOKERY, AT SOUTH KENSINGTON.

The reports of the National Training School for Cookery, at South Kensington, show that public interest in the question of instruction in domestic economy was first concentrated by the delivery of Mr. Buckmaster's lectures upon food, which were given at the invitation of Her Majesty's commissioners in connection with the food exhibit at the international exhibition at London in 1873–'74. These lectures explained the chemistry of food to a certain extent and dealt clearly and practically with the subject of cookery; they were subsequently published in a popular form and convey many valuable scientific suggestions concerning food. The use of the building in which Mr. Buckmaster delivered these lectures was given by the commissioners in 1873 to the South Kensington National Training School for Cookery, under the superintendence of Lady Barker, then maintained by subscriptions, donations, and fees, but now chiefly self supporting. Its object is the training of teachers of cookery, as well as the diffusion of general in-

formation on the subject. The lessons are now given by experienced cooks in accordance with the directions contained in the Official Handbook for the National Training School for Cookery, by Miss Rose O. Cole, the daughter of Sir Henry Cole, one of the most active of the founders and trustees. In 1874, the committee of the parliamentary council on education gave a portion of the general educational fund of 1,000,000*l.* sterling to the permanent foundation of the school. Lady Barker retired from the superintendence in 1875, and was succeeded by the present superintendent, Mrs. Edith Clarke.

The demonstration room of the school is fitted up with a platform, across the length of which runs a table, with a lecturer's desk at one end. Tiers of chairs for students face this table. The teacher stands behind it, facing the class; and at her back are dressers and ranges with closed and open grates. Several grills are let into the table, over gas jets, so that many of the dishes can be cooked there. A blackboard hangs at one side of the room, upon which is written the list of dishes to be cooked during the lesson; above it hangs a card requesting silence and attention among the audience, which is large and intelligent. The cook is a middle aged English woman who has been trained in the school and who specifies the exact quantity of each ingredient as it is added to the dishes. All the operations are scrupulously neat. When the lesson is ended the dishes are placed on sale; they are readily disposed of at about their cost for material. The first cooks employed in the training school were brought from France, and their pupils continue the instruction. Certificates of proficiency are given to such scholars as actually go through the course of instruction, and they are in high estimation.

The training school also provides teachers of cookery for other institutions at a stated fee.

The course begins with instruction in the cleaning of cooking utensils and the lighting and management of fires; training in the different methods of cookery follows, and finally the pupil participates in the actual cooking of the dishes comprising the lessons. The managers agree to recommend such as pass satisfactory examinations in the course, but they do not guarantee them employment. The full course comprises one month's daily work of four hours' time, except on Saturday and Sunday, in the scullery and demonstration classes; then, after submitting her note books and undergoing a theoretical examination, the pupil spends one month in learning and two weeks in teaching in the artisan practice kitchen. From there she goes into the middle class kitchen, where she gives one month to learning and two weeks to helping the teacher to demonstrate; the next month she becomes a demonstrator, working first two weeks in private and giving her final fortnight to public teaching, in accordance with the printed recipes of the school. The fee for this five months' training is about one hundred dollars

(20*l.*). A shorter course of training for teachers of artisan cookery costs about forty dollars (8*l.* 8*s.*).

The staff teachers of the school are recruited from among the pupils, and are paid about ten dollars a week for their services. When employed in London they dine at the school; when sent out of London to teach, they receive about three dollars and a half a week additional for board and lodging, and all their travelling expenses. A three months notice terminates their engagements. In busy seasons positions are open to "improvers," at a salary of about five dollars per week, a week's notice terminating the engagement. When the staff teachers are employed in London they work from 9.30 A. M. till 5 P. M. When teachers are sent out of London their working hours are limited to twenty-four a week. The charge for these outside lessons is, for a single lesson, about five dollars and the expenses of the teacher and kitchen maid; for one week or longer, about twenty-seven dollars a week and expenses. The cost of rooms, attendance, provisions, fuel, utensils, and advertising, is borne by the local employer. The London school advises the holding of a public meeting to awaken interest in the matter at least two weeks before such local branches of the school are established. Branches have been successfully established in most of the large cities of the north of England, and now constitute what is known as the Northern Union of Schools for Cookery.

In London, classes in middle class and artisan cookery have been successfully opened in localities tenanted by the persons they are intended to benefit; the first of these was established in the school room of the Rev. Robert Gwynne, vicar of St. Mary's, Soho, that gentleman providing also the gas and gas stove for the lessons. The expenses for utensils, materials, kitchen maid, and teacher were deducted from the admission fees; from December, 1876, to the end of March, 1877, the profit on these weekly lessons was 191*l.* 10*s.* 2*d.* In October, 1877, the same course of lessons was given in Salisbury and the neighborhood.

In February, 1877, a meeting of the teachers employed in the London board schools was held to decide upon the best methods of introducing instruction in cookery into their schools. The cookery centres established at Marylebone and Blackheath, where the pupils from different schools assembled for domestic training, did not meet the requirements of the public, and the school boards had decided to have at least one teacher in cookery in attendance one or more days in the week at each school; such a teacher would be able to give lessons in school hours to the girls in the middle and upper standards. The first appointment, with a salary of about three hundred dollars and travelling expenses, was given to a graduate of South Kensington.

Recent reports from London state that instruction in practical cookery is now a part of the new system in all the public schools of that city, the school board having assumed the responsibility of making domestic economy a part of the regular school course; lessons are given on food

and its preparation in every girls' school, and for advanced classes there are twenty-one practice kitchens established in different parts of the city fitted with suitable appliances and presided over by skilful teachers of cookery. This comparatively recent innovation has cost a struggle; but many sensible persons advocated it on the ground that, while the school board spends a great deal of money for instruction in ornamental branches, a knowledge of the common practical arts of household life is losing ground among the people. (See appendix, p. 49.)

As an evidence of the general interest in the matter felt by all classes the action of the Cooks' Company of London may be cited. This company had on different occasions provided for the training of a number of young girls at South Kensington, and recently some of these girls gave a public exhibition of their proficiency; in cleaning utensils, lighting the fire, and going through the entire operations of baking, roasting, boiling, and stewing, the young cooks were obliged to depend upon their memories for rules, and in spite of their nervousness at having to work before a large public gathering, the result of their labor was worthy of high praise.

THE EDINBURGH SCHOOL OF COOKERY.

Prominent among the schools which originally formed the Northern Union of Schools for Cookery appears to be that of Edinburgh. Some interesting details of its workings have been obtained through the courtesy of the honorary secretary, Miss Guthrie Wright, whose admirable papers on the teaching of cookery in schools and the influence of a thorough knowledge of this art upon the condition of the working classes have been marked features in the proceedings of the first and second congresses of domestic economy, held at Birmingham and Manchester in 1877 and 1878. She gives credit to Sir Henry Cole, of the South Kensington Museum, for the initiation of the movement for public improvement in this direction, and adds that the warmest supporters of this branch of female education are those who favor the higher education of women, insisting that the only way to secure permanent benefit from this branch of education is to make it one of the regular studies at every girls' school and that primary schools should lay the foundation for its successful continuance in high schools. She urges that if it is the duty of the man to be the bread winner it is certainly the duty of the woman to be the judicious bread dispenser, and that she cannot fill this position without due instruction.

In April, 1875, a public meeting was held in Edinburgh to consider the advisability of establishing a school of cookery in that city, the lord provost in the chair. The interest was general, and measures were at once taken to develop the plan. A teacher was selected and sent to South Kensington for training; the lecture room of the Edinburgh Museum of Science and Art was offered for the demonstrations, and in November, 1875, the Edinburgh School of Cookery was formally opened for instruction in artisan, plain, and high class cookery. The success of the school

was pronounced; and the last annual report states that in addition to the regular instruction imparted in the Edinburgh School of Cookery, in Albert Buildings, lessons were given in various districts of the city, in Leith, in Portobello, in some boarding schools for young ladies, and in forty-one towns and villages. The attendance in all these places was large, and the evening classes for cheap cookery were especially successful. In three towns the evening attendance reached nearly 1,000, and in most of the villages the audience numbered 500 persons. As the result of these branch classes, local committees had reported not only great general improvement in the cookery and economy of the district but many individual instances of increased comfort in the homes of the working classes. Applications for classes from numerous towns and villages throughout the country continue to be received; they are to be met as rapidly as the resources of the school will permit.

In November, 1877, Miss Guthrie Wright addressed a letter to a prominent citizen of Philadelphia, in behalf of the Edinburgh school, offering to establish branch schools in America. This letter was referred to the board of managers of the New York Cooking School and by them placed in the hands of Miss Corson, the superintendent and secretary of the school, for further consultation. A detailed account of the New York Cooking School was forwarded to Edinburgh, together with some of its publications on the subject of domestic economy, and the decision in the matter was left to the judgment of the Edinburgh board of managers. This decision was recently communicated in a letter from Miss Guthrie Wright, which says:

Under the circumstances there is no call for our doing anything towards teaching in America. I have been much interested in reading the reports, which indicate much vigor on the part of your institution, and have to thank you for the books, which seem very practical. I may mention that we have been informed that a lady, Miss Dods, who was formerly on our staff, intends going to America on her own account, but she has no connection now with our school.

We cannot close this brief mention of the Edinburgh School of Cookery without recurring to that paragraph of the papers of Miss Guthrie Wright which points out the value of the information cookery schools will be able to furnish regarding the dietary and cooking apparatus suitable for hospitals, asylums, and other public institutions. Her Edinburgh School Cookery Book, published last year, describes the system of instruction followed in the school in an explicit and thorough manner; treating clearly and briefly of food materials, the principles of cookery, the adaptation of food to the varying circumstances of life, and its specific preparation, the book closes with suggestions for the arrangement of cookery classes in elementary schools.

THE LIVERPOOL TRAINING SCHOOL OF COOKERY.

This school is in a prosperous condition. It belongs to the Northern Union of Schools for Cookery, and is governed by the general rules of

that union. Like the Edinburgh school it has its own special set of recipes for the treatment of food, which cover the various departments of household, invalid, and high class cookery, and indicate an exact and excellent system of instruction. The instruction is extended to the children of the poorer classes, and in a recent letter to the secretary of the New York Cooking School the honorary secretary, Miss Fanny L. Calder, writes:

We have much work and many schemes for the people of Liverpool, and it has struck me that the best antidote to the public house (the curse of England) is home made comfortable and attractive. We try to get the children taught before they leave school, for the neglect of this important part of a woman's education has caused much degradation and misery in England. We press our instruction on the poor. Our aim is the same [as yours], and I have so much faith in it that I believe it will prove one of the great social reforms of the age. Your most excellently written book makes me think you are likely to join in any scheme to induce women to unite their brains with their hands in their home management. How I wish some connection would be formed between you and us; it would be a grand thing. I see your lessons are the same in number for a course as ours, so here seems the very foundation needed.

The proposed union was agreed to by the New York Cooking School, and the two institutions now represent and work in connection with each other. Another paragraph gives the system of instruction followed in all the cookery schools of the Northern Union, which includes the towns of Cambridge, Leamington, Bolton, Manchester, Southport, Brecon, Launceston, Leicester, Norwich, Tavistock, Glasgow, Leeds, and other northern places.

The Leeds lectures on health in the household were delivered by Mrs. C. M. Buckton, a member of the Leeds school board, to audiences of working people in Leeds and Saltaire and to the girls and boys of the schools under the supervision of the board, in 1874. Great general interest was manifested by the audiences, which were large and regular in attendance. The lectures gave an outline of the physiology of nutrition and the chemistry of food, and were illustrated by diagrams and object lessons. The results were highly satisfactory.

NORTHERN UNION OF SCHOOLS FOR COOKERY.

The following are the courses of instruction which have been approved and adopted and which must be followed in order to obtain the Northern Union's certificates and diplomas:

CERTIFICATES.

In order to obtain the certificate for learners the student will be required to pass through a course (1) of cleaning and scullery work; (2) of practice lessons; and (3) of demonstration lessons.

In order to obtain the certificate of good plain cook, cooks will be required to pass through a course (1) of cleaning and scullery work; (2) of demonstration lessons, which *may* be artisan; and (3) two courses of practice lessons, one of which *may* be artisan and one of which *must* be plain household cookery.

Cooks who cannot write with facility may be qualified for certificates by verbal examination.

DIPLOMAS.

In order to gain the diploma for teachers of artisan cookery the student will be required to pass through a course (1) of cleaning and scullery work; (2) of demonstration and practice lessons in artisan cookery and a course of plain household cookery; and (3) of practice in giving demonstration lessons in artisan and plain household cookery, including not fewer than three entire demonstrations either public or private.

In order to gain the diploma for teachers of all branches of cookery the student must, in addition to the above (1, 2, and 3) courses, pass through (4) a course of demonstration and practice lessons in high class cookery and (5) a course of practice in giving demonstration lessons in high class cookery.

FEES FOR TRAINING TEACHERS.

The fee for training a teacher of artisan cookery is seven guineas. The fee for training a teacher of all branches of cookery is ten guineas. The training will occupy from five to six months. In the event of a teacher taking her diploma as teacher of artisan cookery in one school and the remainder of her training as a teacher of all branches of cookery in another school, the fees payable at the latter will be four guineas instead of three guineas.

Students intending to qualify for a diploma are expected to study the following books: Food. by A. H. Church, 3*s*. 6*d*.; Elementary Physiology, by Dr. Lankester, 2*s*. 6*d*.; Domestic Economy for Girls (Nelson's Royal School Series), 1*s*.; Health in the Household, by Mrs. Buckton, 2*s*.; Scholar's Handbook of Household Management and Cookery, by Tegetmeier, 1*s*. Students intending to take a certificate will be expected to study the last two of these books and cooks will be expected to read Tegetmeier.

THE NEW YORK COOKING SCHOOL.

The question of establishing schools of cookery in America is now being widely agitated; in several of the larger cities cookery clubs exist, the lady members of which are generally proficient in the culinary art; the public cookery schools of New York and Boston meet with popular favor. The New York Cooking School is widely known as the starting point of the movement which is gradually changing American cookery from wasteful and unwholesome methods to the more artistic and economical processes that distinguish the semi-scientific cookery of Europe. The works of the superintendent of this school have aroused much public interest, and in answer to a general demand her Text Book for Cooking Schools and a household manual embodying the principles of domestic economy as taught in the New York Cooking School have been issued for the guidance of those who desire to open similar institutions.

The school was first begun in the year 1874 under the management of an institution for teaching women and girls the principles of various feminine occupations;[1] Miss Juliet Corson was at that time secretary of the society in charge of this institution and had the immediate supervision of this special department. From September, 1874, to March, 1875, about 200 persons attended the lessons. The following method of instruction was pursued: The pupils assembled in the lecture room to listen to a brief analysis of the various articles of food to be cooked

[1] This Free Training School for Women furnished instruction by lectures and demonstration and was largely aided pecuniarily by Mrs. Elizabeth Thompson.

during the lesson and the effect which they would have upon the system after they were eaten; directions were then given for choosing and buying them and for preserving them fresh and untainted. After Miss Corson had fully elucidated these points and assured herself that her hearers clearly comprehended them, she took her class to the kitchen, where they watched the preparation of the bill of fare and the serving of the dishes after they were cooked.

In the autumn of 1875 Miss Corson organized the Ladies' Cooking Class, in connection with another institution of a similar character, and conducted it successfully until the end of January, 1876. During that time about 100 pupils attended the lessons.

In November, 1876, she opened the New York Cooking School at her residence, a large, old fashioned house in St. Mark's Place, near Cooper Institute. The instruction was based upon the experience of the two previous seasons, which had demonstrated that the excellence of artistic cookery could be applied to every day requirements. Miss Corson's teaching is plain and thorough, every point in each receipt being fully explained, and every lesson furnishing a variety of seasonable dishes for daily use in families of moderate means. The pupils are taught that plain and inexpensive food may be so cooked as to preserve its best qualities, produce maximum results from given quantities, and make dishes that appear and taste equally well with those generally served at the tables of the best hotels and clubs. In addition to cooking fresh materials well, the pupils are taught to economize the remains of food, working everything up in an attractive and palatable form and utilizing, in delicious side dishes, suitable for breakfast and luncheon, what many persons throw away. When pupils desire to continue their studies long enough to master the culinary mysteries of what is professionally termed the cuisine classique, or high art cookery, they are taught the most delicate and intricate productions of the skill of French chefs de cuisine.

In the ladies' regular public lessons, ladies are taken into the practice kitchen, after a little preliminary discussion of the bill of fare for the day, and the dishes are prepared for cooking in the succession in which they should be ready for the table. For instance, in cooking the following bill of fare: Cream of beets; baked red snapper with Madeira sauce; Parisian potatoes; chicken sauté, à la marengo; asparagus; peas; roulette of beef, Flemish style; salad; rice croquettes with vanilla cream sauce, the beef would be placed on the fire at the beginning of the lesson; then the chicken sauté would be commenced; next the vegetables would be prepared; the rice croquettes begun; the fish dressed; the soup and sauces made; the salad made ready for its final dressing; and then all the dishes would be ready to finish and serve in their proper course. As each dish progresses its details are carefully explained, the weights and measures are accurately given, and much useful knowledge is imparted incidentally. At the conclusion of the lessons, Miss Corson

chats with her scholars upon the different points of the instruction which has been given, revises their recipes, and affords them any general information they may desire.

In the private classes the pupils take part in the preparation of the dishes if they desire to do so.

The terms for the public lessons are $1 for each lesson, or $10 for a course of twelve; the private lessons are $1 an hour and the cost of the materials, the pupils choosing the dishes and disposing of them after the lesson is over; in private lessons, given to a club of ten or more ladies, the charge is $10 for each lady, and the cost of the materials; in all the private lessons preference is given to those dishes which are selected by the pupils, but Miss Corson always desires them to pay more attention to the substantial dishes than to desserts and pastries.

The plain cooks' class of the New York Cooking School was opened in March, 1877, and incorporated in May, 1878, with the following named board of trustees and managers: Mrs. Robert L. Stuart, Mrs. Charles P. Daly, Mrs. D. D. Lord, Mrs. William H. Osborn, Mrs. A. J. Vanderpoel, Mrs. E. L. Youmans, and Miss Juliet Corson. This department of the cooking school is designed for the instruction in the principles of plain family cooking of young housekeepers in moderate circumstances, young women employed as domestics, and the wives and daughters of workingmen; the instruction consists of the actual cooking of appetizing and wholesome dishes from inexpensive materials. The managers believe that American women of all classes are sufficiently practical to avail themselves of any means offered for improvement in household matters; they are confident that by applying skill and forethought to cookery it can be raised above mere kitchen drudgery and made sufficiently attractive to induce many respectable and intelligent young women to enter this field of useful labor, rather than to attempt to swell the already overcrowded ranks of sewing girls and shop attendants. The entire course consists of twelve lessons, covering a variety of methods of cooking soups, fish, side dishes, broiled and roast meats, poultry and game, vegetables, eggs, macaroni, bread, cake, and pies; and the two concluding lessons are devoted to instruction in special cookery for invalids and children. The following is the schedule of lessons:

First lesson.—Stock; flavoring, thickening, and coloring soup; clear soup or consommé; Scotch broth; vermicelli soup; julienne soup; spinach soup; pea soup.

Second lesson.—Boiled cod with hollandaise sauce; fillet of sole with caper butter; baked bass; broiled shad with maître d'hôtel butter.

Third lesson.—Blanquette of veal; chicken curry; ragoût of beef; mutton chop sauté; broiled steak.

Fourth lesson.—À la mode beef; breast of veal, stuffed; canton of lamb; roast ham with Madeira sauce and vegetable garnish.

Fifth lesson.—Roast duck with watercresses; wild duck; boiled fowl with oyster sauce; boned birds; broiled birds; chicken fricassee.

Sixth lesson.—Boiled potatoes; potato croquettes; Kentucky potatoes; stuffed potatoes; boiled green peas; stewed turnips with béchamel sauce.

Seventh lesson.—How to boil macaroni; macaroni with white sauce; macaroni with Parmesan cheese; macaroni à l'italienne; macaroni à la milanaise.

Eighth lesson.—Poached eggs; scrambled eggs; baked eggs; ham omelette; oyster omelette; fine herbs omelette; omelette with preserves.

Ninth lesson.—Bread; rolls; biscuit.

Tenth lesson.—Fruit cake; pound cake; sponge cake; cranberry pie; apple pie; cream meringue pie.

Eleventh lesson.—Mutton broth; chicken broth; beef tea; beefsteak juice; oatmeal porridge; chocolate; Iceland moss blanc manger.

Twelfth lesson.—Baked potatoes; broiled chops; baked apples; tapioca pudding; apples and rice; apple custards.

The following terms have been fixed for admission to this class: For pupils paying their own tuition and for the wives and daughters of workingmen, 50 cents a lesson or $5 a course; for charitable societies in behalf of their protégés, $5 a course; for ladies sending their cooks for training, $1 a lesson or $10 a course; for girls unable to pay for instruction the managers will make special arrangements. Subscribers will be entitled to select girls for training and to send them to a course of lessons after consultation with the managers.

As this department of the school cannot be made self sustaining without greatly impairing its usefulness, donations and subscriptions are received from benevolent persons and applied to the use of this class by the managers, who rely upon the hearty coöperation of the public in extending its advantages to all who need them.

From November, 1876, to May, 1877, the attendance at these two classes of the cooking school numbered over 800 persons, to whom 82 lessons were given. During the winter of 1877–'78 both these departments of the school were in successful operation, with an increased attendance; 130 lessons were given to about 1,200 persons.

Three years ago the disturbed condition of manufacturing interests had so reduced the comforts of the mass of workingpeople that the problem of living had become a serious one with them. After thoroughly investigating the subject, Miss Corson wrote, published, and gratuitously distributed 50,000 copies of a pamphlet called "Fifteen Cent Dinners for Workingmen's Families." The book was addressed to the wives of workingmen earning $1.50 a day or less; and the wide demand for it proved the existence of a general desire for information on this branch of our national cookery. In answer to an invitation from the ladies connected with Olivet Chapel, in New York, Miss Corson gave her first public lesson to workingpeople there, in the spring of 1878, to an audience of over 250 women. She cooked a hearty dinner for ten persons, composed of a haslet ragoût, hot slaw, and macaroni, at a cost

of thirty cents. As she prepared the dishes she told her auditors where she had bought her materials, how much she had paid for them, and the size of the dishes she intended to produce from them. She had marketed where they habitually dealt and bought foods in common use among them, but the result surprised them, because, by her treatment of the supplies, larger and more palatable dishes were produced. The satisfactory result of this lesson led to the establishment at the cooking school of classes for children of workingmen; twelve lessons were given to the pupils of Dr. Vincent's mission school, and twelve more to the children belonging to the Soldiers' Orphans' Home. In these lessons, which have remained a feature of the New York Cooking School, the girls help Miss Corson to prepare and cook the dishes; she shows them what to do; tells them the reason for working in certain ways, and when they seem at fault helps them out of their dilemmas. Then, while the food is cooking, she takes them into the dining room and teaches them to set the table; the example having once been given by Miss Corson, the girls follow it through the rest of the lessons, criticising each other's efforts until all learn to lay the table neatly. After the meal is cooked the girls are shown how to dish and serve it, how to help to the different dishes and wait on the table. The food used during these lessons is given to the children to take home with them, and before the next lesson a certain number of them have repeated the instruction last given by marketing for the material with the lady in charge of them for that day and then cooking it at her house. The report from these mission classes is very favorable: the children enjoy the lessons, remember them well, and put them into practice in an intelligent manner. The parents are well pleased with the progress of the children, and are generally ready to assist and encourage them in putting their new accomplishment into daily practice. The closing lesson of the season of 1878 was given on the 30th of April to the children from the Soldiers' Orphans' Home, who on that day completed their course of twelve lessons. During the summer of that year these girls did the bulk of the cooking for the inmates of the home, numbering over 160 persons.

The following is the schedule of lessons given to children; in the Text Book for Cooking Schools it is called the first artisan course:

Introductory to all the courses of lessons.—Choice and fittings of demonstration kitchen; weights, measures, and seasonings; how to clean kitchen; how to clean stove; how to make and keep up fire; the best kind of fuel; cooking temperatures; best material for cooking utensils; how to clean utensils.

FIRST ARTISAN COURSE.

First lesson.—Material for soup; vegetable porridge; pea soup with croûtons; Scotch broth without meat; beef and vegetable soup.

Second lesson.—How to choose fish; boiled haddock with parsley sauce;

fried fillets of flounder; broiled fillets with maître d'hôtel butter; grilled fish bones.

Third lesson.—How to choose eggs; how to keep eggs; boiled eggs; poached eggs; fried eggs; plain omelette; parsley omelette; sweet omelette.

Fourth lesson.—Baker's and home made bread; yeast; how to set bread sponge; biscuit; milk rolls; breakfast twist.

Fifth lesson.—How to choose macaroni; how to boil macaroni; macaroni, farmer's style; macaroni with béchamel sauce; baked macaroni; how to mould, prove, and bake bread.

Sixth lesson.—Leguminous vegetables; peas and bacon; white haricot beans, bordelaise style; boiled lentils; fried lentils; red kidney beans stewed.

Seventh lesson.—How to choose potatoes; how to keep potatoes; boiled potatoes; lyonnaise potatoes; German potatoes; potato salad.

Eighth lesson.—How to choose vegetables; how to keep vegetables; how to boil green vegetables; hot slaw; baked turnips; parsnip fritters.

Ninth lesson.—Cheapest cuts of meat; combination dishes; potato pot; beef à la mode, Victoria style; pork and beans; bacon and cabbage.

Tenth lesson.—Parts of animals called entrails; haslet ragoût; stewed tripe; stuffed heart; broiled kidneys.

Eleventh lesson.—How to cook for invalids; toast; toast water; tea; beef tea; chicken jelly; panado; barley water; apple water.

Twelfth lesson.—Nutritive value of pies and puddings; Swiss pudding with cream sauce; cream rice pudding; apple tarts; gold cake; silver cake.

Miss Corson's careful experiments and close study of the subject have shown the possibility of pursuing the popular system of instruction in cookery and domestic economy so as to engage the attention of all social classes and to promote public health and comfort. To enable ladies in different sections of the country to establish similar institutions and to pursue the same course of instruction, Miss Corson has arranged some of her lessons in the form of a Text Book for Cooking Schools. This work, now in circulation, gives a clear and definite plan for organization and practice in schools of cookery. Miss Corson recommends the establishment of graded schools of cookery, embracing the following branches of instruction:

(1) A class of schools for the training of children of workingpeople in that kind of cookery most suitable for use in their own homes, the instruction to be varied in accordance with local requirements.

(2) A class of schools for the instruction of plain cooks in the principles of moderately expensive cookery adapted to the needs of families in comfortable circumstances; also the appropriate and economical combination of the remains of food which has already appeared on the table

into appetizing dishes. This course includes some instruction bearing on the choice of food for its economic and sanitary value.

(3) A class of schools for high class cookery, in which suitable persons, both male and female, may receive instruction in the more difficult branches of the culinary art, so as to be fitted to fill the positions of head cooks in large private establishments, clubs, and hotels. A department can be devoted to alimentary experiments with new food products, in direct relation to their nutritive and economic value.

(4) Normal schools of cookery, where ladies can be taught the theory and practice of domestic economy, both in reference to its practice in their own homes and in training others in this accomplishment. Proficient housekeepers and ladies who have already assumed the direction of their own households can attend this department with advantage, with the following objects in view: The use of different articles of food in relation to varying physical needs; the alteration and improvement of the dietaries of individuals following certain pursuits, in accordance with their special requirements; and the detection of the adulteration or deterioration of different foods.

The establishment of these schools is by no means a new question. Miss Corson reports herself in receipt of communications from nearly every large city in the United States asking advice as to methods of procedure in founding such institutions. As all her study and writings have this object in view it is to be hoped that she will be able to spare others the trials and difficulties which she has been obliged to overcome. A very important part of Miss Corson's work[1] is the training of ladies

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[1] Under the auspices of the Ladies' Educational Association and the Protestant board of school commissioners of Montreal, Miss Corson gave the following demonstration lectures at Burnside Hall, in Montreal, Canada, in November and December, 1878: Twelve public lectures to ladies, average attendance at each lesson 200; twelve evening lessons to artisans' wives, average attendance at each lesson 100; twelve evening lessons to high school pupils, average attendance at each lesson 20. At the close of Miss Corson's lectures the opening of the Montreal Cookery School was formally announced in the following circular:

The lectures given by Miss Corson under the auspices of the Ladies' Educational Association and the Protestant board of school commissioners have proved so successful as to encourage the opening of a permanent school for the purpose of practically carrying on the important work which she has begun.

At the conclusion of Miss Corson's course, lessons will be continued under the supervision of a lady who has been her assistant during the lectures and who will teach after the method and principles already made so popular. * * * The lessons will be given in the same room used by Miss Corson. * * * The following ladies have kindly permitted their names to be used as patronesses of the Montreal Cookery School: Mrs. Redpath, Mrs. Molson, Mrs. Dawson, Mrs. J. H. R. Molson, Mrs. Mercer, Miss Lund. Mrs. L. M. Brown, superintendent.

A letter addressed to Miss Corson from one of the patronesses of the school, dated March 17, 1879, contains the following reference to the cookery school:

I am sure that your lessons and lectures continue to spread among the women of America not only a useful, but an elevating form of education. Good fruit continues to ripen from the seed you sowed here. The school you founded promises to be a per-

in all branches of domestic economy for the purpose of enabling them to instruct others in their turn.

The New York Cooking School was opened for the session of 1879 on the 5th of January, under the management of the following named ladies and gentlemen:

President.—Mrs. Robert L. Stuart.

Vice president.—Mrs. Charles P. Daly.

Treasurer.—Mrs. William Powell.

Secretary and superintendent.—Miss Juliet Corson.

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manent institution. One instance of the unabated zeal of some of your students I may mention. Several large parties have been given this winter for which the young ladies of the families have themselves cooked the suppers.

A recent Montreal paper contained the following notice:

Cookery training school.—An English lady of ability and long experience in the art and science of cookery, having for many years made domestic economy her pleasing study, proposes (D. V.) early in September next to establish in this city a permanent cooking school, where the youth of all denominations will be instructed in cookery. A demonstration kitchen will be equipped with all necessaries and the New York Cooking School Text Book, by Miss Juliet Corson, which has been so highly approved in the United States, will be followed, interspersed with English cooking suited to the climate, tastes, and requirements of the population.

The following letter also has been received by the Commissioner of Education:

MONTREAL, CANADA,
9 PRINCE OF WALES TERRACE, *November* 30, 1878.

DEAR SIR: As a friend of Miss Corson and taking an interest in the very important work in which she is engaged, you will no doubt be gratified to hear that her lectures in Montreal are a brilliant success.

Our educational association made arrangements for these lectures with some anxiety, as the idea was quite a new one, and we felt that so much depended on the lecturer that the experiment was somewhat doubtful. The first day's lesson, however, relieved all anxiety. Miss Corson is so perfectly mistress of her subject, is so clear in her explanations and so unwearied in her desire to please and interest, that she cannot fail to impress her audience. The lessons given to the Ladies' Educational Association have been attended regularly by 130 to 200 ladies; although the weather has been most unfavorable, it has scarcely affected the number present. Miss Corson has given a number of very valuable practical hints on general principles, as well as demonstrating in our presence, with as much precision and clearness as a scientific lecturer could employ in his experiments, the manner of working out and completing her excellent recipes. The full explanations given enable the dullest to repeat the work at home with success, and each day we have proofs of the interest awakened. The school commissioners will no doubt report on their special classes, which are well attended. There is no part of Miss Corson's work more likely to bear immediate fruits than that done at the evening lessons. Miss Corson herself proposed to give these extra lessons under the auspices of the Ladies' Association, in hopes of benefiting the artisan class; but finding the audience to consist principally of servants of a good class, she, with her usual disregard of any personal convenience, adapted her lessons to suit their want, and several families have given testimony to the improvement in cooking already visible. Even financially, the scheme (which was looked on as very doubtful) is working well.

I have not gone into any minute detail, but shall be happy to give full particulars on any point which you may desire specially to be informed on. It will give the association great pleasure to testify to the great usefulness of Miss Corson's work and the complete success that has attended her first lectures out of her own country.

Believe me to remain, yours, truly,

MARY MERCER,
Honorary Secretary of the Ladies' Educational Association.

Hon. JOHN EATON.

Trustees.—Mrs. Robert L. Stuart, Mrs. Wm. H. Osborn, Mrs. Aaron J. Vanderpoel, Mrs. Charles P. Daly, Mrs. Daniel D. Lord, Mrs. Edward L. Youmans, Miss Juliet Corson.

Advisory committee.—Rev. Henry C. Potter, Rev. John Hall, Robert L. Stuart, esq., Hon. Chas. P. Daly, Hon. Abram S. Hewitt, Henry E. Pellew, esq.

Board of managers.—Mrs. Robert L. Stuart, Mrs. Wm. H. Osborn, Mrs. Morris K. Jesup, Mrs. Clarence G. Mitchell, Mrs. David G. Farragut, Mrs. John R. Brady, Mrs. John Crosby Brown, Mrs. Abram S. Hewitt, Mrs. Theodore Bronson, Mrs. Frederic R. Jones, Mrs. Charles P. Daly, Mrs. Daniel D. Lord, Mrs. Wm. E. Dodge, jr., Mrs. Aaron J. Vanderpoel, Mrs. Marshall O. Roberts, Mrs. Edward L. Youmans, Mrs. Wm. Powell, Mrs. John E. Zimmerman, Mrs. Henry E. Pellew, Miss Juliet Corson.

The first lesson was given to the children of the mission school of the Church of the Covenant, and was followed by other lessons to mission school children. Private individuals sent to the lessons numbers of children from poor families not connected with any church or benevolent society.

The lessons to the wives and grown daughters of workingmen and to cooks and young housewives were successfully continued, and the ladies' cooking classes were well attended. The services of the French chef employed during previous seasons were dispensed with, and the entire demonstrations were conducted by Miss Corson, assisted by her pupils, some of whom were in training for the purpose of becoming teachers in other schools.

Below is given the schedule of lessons followed in the "second artisan course" for the wives and daughters of workingmen, and "the ladies' course," which is designed for the instruction of ladies at the head of large private establishments, boarding houses, and family hotels. The instruction to ladies includes lessons in marketing, serving, and carving.

SECOND ARTISAN COURSE.

First lesson.—Oxtail soup; caramel; baked herrings; liver rolls; Cassel puddings with hard sauce.

Second lesson.—Crécy sauce; fillets of fish with Spanish sauce; ragoût of spareribs and peas; caramel custards.

Third lesson.—Mulligatawny soup; persillade of fish; fried brains; lemon dumplings.

Fourth lesson.—Tripe soup; fried halibut neck; kolcannon; bubble and squeak; apple fritters.

Fifth lesson.—Gravy soup; boiled pike with egg sauce; curry of pork; orange omelette.

Sixth lesson.—Turtle bean soup; fish chowder; chicken pie; corn starch puddings.

Seventh lesson.—Wrexham soup; fish croquettes; creole sausages; apple croûtes.

Eighth lesson.—Brunoise soup; clam fritters; mutton réchauffé; cabinet pudding with jelly sauce.

Ninth lesson.—Pot-au-feu; devilled crabs; beef and vegetables; French pancakes.

Tenth lesson.—Creole soup; boiled ray with piquante sauce; salmi of duck; baroness pudding.

Eleventh lesson.—Mutton broth; fish pie; kromeskys; fricadels; apple charlotte, plain.

Twelfth lesson.—Purée of fish; baked cod with cream; curried tripe; sago pudding.

LADIES' COURSE.

First lesson.—Consommé à la royale; baked carp with Spanish sauce; potatoes à la royale; breast of lamb with béchamel sauce; cauliflower au gratin; roast beef; salade à la romaine; apple meringues.

Second lesson.—Purée of salmon; fillets of bass à la royale; julienne potatoes; fricandeau of veal; rizotta à la milanaise; roast ham with champagne sauce; celery à la cardinale; crème à la versailles.

Third lesson.—Mock turtle soup stock; halibut neck à la créole; broiled potatoes; salmon croquettes; oyster plant sauté aux fines herbes; canton of lamb à la jardinière; salade à la russe; cabinet pudding.

Fourth lesson.—Mock turtle soup; crimped cod à la colbert; Parisian potatoes; calf's tongue and brains with tartar sauce; Jerusalem artichokes; artichokes with butter sauce; calf's head à la poulette; anchovy salad; omelette soufflée; chocolat soufflé.

Fifth lesson.—Cream of beets; oysters à la poulette; Saratoga potatoes; fried oysters; broiled oysters; red haricots sautés à la bordelaise; baron of lamb with mint sauce; salade à la macédoine; cream fritters.

Sixth lesson.—Potage à la reine; broiled trout with maître d'hôtel butter; duchess potatoes; canton de Rouen; celery à la villeroi; breast of lamb à la maréchale; chicken salad; rice croquettes with vanilla cream sauce.

Seventh lesson.—Mock terrapin soup; bouille-abaisse; potatoes au gratin; calf's liver à la bordelaise; macaroni à la napolitaine; braised beef à la printanière; salade à la suédoise; French pancakes.

Eighth lesson.—Mi-carême soup; halibut fillets à la maréchale; potatoes à la crème; curry of duck à l'indienne; kale with butter sauce; roast turkey; French salad; cream cakes; chocolate éclairs.

Ninth lesson.—Purée of celery; eels en matelotte; potatoes à la maître d'hôtel; galantine of chicken (first part); asparagus; peas; braised capons with tongue; lobster salad; Cumberland pudding with rum sauce.

Tenth lesson.—Game consommé à la désclignac; carp à la chambord; potatoes à la provençale; galantine of chicken (second part); oyster

patties; shoulder of lamb à la financière; shad-roe salad; macédoine of fruits.

Eleventh lesson.—Potage à la hollandaise; scallops of sturgeon aux fines herbes; potatoes with sauce piquante; chicken sauté à la marengo; Brussels sprouts à la maître d'hôtel; roast pigeons; shrimp salad; pudding diplomatique.

Twelfth lesson.—Purée of carrots; turban of flounders à la hollandaise; potatoes sautées à la barigoule; mutton cutlets à la milanaise; French beans sautés aux fines herbes; filet de bœuf à la macédoine; Italian salad; fruit and nuts glacés; gâteau de Princesse Louise.

During the season two public lectures to working people were given by Miss Corson to attentive and appreciative audiences at De Witt and Alexander Chapels.

Two of the Saturday evening lectures at the Cooper Institute were delivered by Miss Corson and illustrated with stereopticon views of different cuts of meat, of the arrangement and service of the table, and similar subjects.

The New York Cooking School closed for the summer the last week of April. The following is the record of the work accomplished during the season, which was briefer than usual, owing to the absence of Miss Corson from the city during November and December, 1878; at this time the Montreal Cooking School was being established:

Attendance at lectures and lessons from January to April, 1879.

2 public lectures at Cooper Institute, attended by.....	5,000 people.
1 public lecture at De Witt Chapel, attended by	250 women.
1 public lecture at Alexander Chapel, attended by....	100 women.
Public lecture attendance	5,350 persons.
24 lessons to children of workingpeople, attended by..	426 children.
24 lessons to mission school teachers, attended by	96 teachers.
6 public lessons to cooks, attended by	30 cooks.
36 private lessons to cooks, attended by	36 cooks.
36 private lessons to ladies, attended by.....	324 women.
30 public lessons to ladies, attended by.....	250 women.
48 single lessons to ladies, attended by...	48 women.
204 lessons to	1,210 persons.

Total attendance at public and private lectures and lessons, 6,560.

LESSONS IN COOKERY IN PEORIA, ILL.

Mrs. A. J. Hardin, president of the Ladies' Christian Home Mission, Peoria, Ill., acting for the executive committee, arranged with Miss Corson in May, 1879, to give a course of lessons with a view to awakening special public interest sufficient to warrant the addition of a depart-

ment of training in domestic economy to the home under its charge. The lessons were successful, being attended by both ladies and gentlemen; the children of the mission were brought to the lessons for the purpose of testing the practicability of giving them to those of their age. The lessons were highly commended by the press. Since then the fund has increased to a sufficient amount to warrant the purchase of a large and suitable building to which the Industrial Home has been removed and in which this new department of industrial training will be introduced.

At the convention of the women's christian associations, held at Cleveland, Ohio, in June, 1879, Miss Corson read a paper from which the following extracts are made:

Cooking schools and peoples' kitchens are in successful operation in France, Holland, Prussia, and Switzerland; some of these institutions are supported by government and all enjoy distinguished patronage. In the Kohler Kindergarten at Gotha, the professor of domestic economy states a standard rate of income, and requires the pupils, in a series of lessons, to apportion it properly for the various expenditures of house rent, fuel, food, clothing, education, and incidental expenses.

Since private enterprise has proved the practical use of such training, public educators must sooner or later admit it to a place in the scheme of public school instruction. The fact that it involves some knowledge of the chemistry of food and the physiology of nutrition, at once raises it to the plane of semi-scientific education, and this place it will hold by virtue of its vital bearing upon public health and comfort, as well as upon the individual interests of the family. These ideas are by no means radical: it is already acknowledged that the result of such education is to counteract discomfort and discontent among all social classes.

It is often said that a Frenchman can live upon what an American throws away. This is a fact. Not because a Frenchman needs less food than an American, but because he knows how to make the same article go twice as far in producing palatable dishes. He has been trained from childhood to value food properly. Americans are taught nothing of the sort; and the result is a sinful waste of the bountiful supplies with which nature has blessed our fruitful country.

We cannot afford to make all our children professionals, for the professions are already overcrowded, while the mechanical and domestic arts are always open to well trained workers. There is no form of public teaching which would be more heartily welcomed by the people than the practical industrial education that fits boys and girls to begin the work of life with available tools in their hands, instead of with heads crammed with impracticable ideas.

Aside from this strictly utilitarian view of the subject, it presents itself forcibly to the humanitarian for earnest consideration. To a great extent a man is what his food makes him. Diet can make him strong or weak, intelligent or stupid, chaste or profligate, sober or drunken. These assertions are borne out by facts as well as by the theories of scientific men.

SCHOOLS OF COOKERY IN BOSTON.

The Boston Cooking School is under the direction of Miss Maria Parloa, author of The Appledore Cook Book. Her first public lecture was given at Tremont Temple in Boston, May 23, 1877. Sufficient public interest was awakened to warrant a continuance of the lectures during the month of May; and in October Miss Parloa opened her cooking

school at 171½ Tremont street. Three public and three private lessons were given every week, each lasting about three hours, on the following terms: Public lessons, $24 for twenty-four lessons; private morning lessons, $30 for twenty-four lessons.

The school, situated on the third floor of a large building, has a room 22 by 26 feet square in which the lessons are given. A dining table, a large cooking stove, and a kitchen table fill the end of the room. The aspect of the room is clean, light, and cheerful. During the lessons each step in the preparation of the food is clearly explained by Miss Parloa as she makes the various dishes ready for cooking and all her pupils' questions are answered in detail. The recipes of The Appledore Cook Book form the basis of instruction. In the private lessons the pupils work under Miss Parloa's direction; in the public lessons they become spectators; at the latter the audience during the past season averaged 35 persons. In January, 1878, the first class dinner was given by the young ladies of the private class to their gentlemen friends; an excellent and palatable menu was cooked and served by the ladies and thoroughly enjoyed by the guests. The second class dinner is thus described by a local newspaper:

What commencement is to the graduates of a college, the class dinners at Miss Parloa's School of Cookery are to the students who have finished their course of instruction and invite their friends to partake of the fruits of their labors. The results of their term of study are shown to much more practical advantage than are those of the ordinary seminary or female college, since the viands which are prepared by the fair students appeal directly to the most critical and appreciative sense. Unless the favored guest has an appetite pampered beyond the power of the gastronomic art to gratify, he cannot fail to appreciate the favor conferred by a seat at the table with a graduating class at this institution. The members of class D gave a dinner on Saturday evening, to the preparation of which the ladies devoted the best part of the day, and at six o'clock received their gentlemen friends, with whom the evening was devoted to the discussion of a most elaborate and extensive menu, which was served in nine courses. Other classes have given dinners, the first class in particular, the embellishments of which may have been more ornate, but it is safe to say that in all the essentials of the art to the solving of the mysteries of which the accomplished hosts of the evening have given months of patient study, the dinner of class D was fully as acceptable as any that have preceded it, and if, as there is every reason to believe they will, the ladies carry their accomplishments which they have acquired at Miss Parloa's into the domestic circles which they may be called upon to grace, happy will be that man who is called upon to supply their larders.

The public afternoon lectures were closed in April, in order that Miss Parloa might deliver a course of lectures before the pupils of Miss Morgan's school, at Portsmouth, N. H., and at Lasell Seminary, Auburndale, Mass.; these lectures were very successful and were attended by many of the ladies of the towns where they were given.

A lesson to campers-out took place in May. Of this a local reporter says:

Before beginning the lesson Miss Parloa exhibited a complete set of cooking utensils, which were compactly inclosed in a small chest. Everything was made so as to occupy the least possible space, and it seemed as if perfection had been reached in the attempt to make a model outfit. Two small oil stoves were also shown and the

methods of use explained, and on them the dishes were cooked. Reasoning that almost every camping ground is chosen near where fish are plenty, Miss Parloa showed how to dress fish, and then to fry, broil, and boil them, giving many ideas as to how they could be made palatable. Taking some self-raising flour, she made muffins, and after giving receipts, prepared chowder. Each step of the cooking was carefully explained, so that those who came to learn can hardly have failed to profit by their attendance. When the dishes were served they were found to be excellent, and apparently there is no reason why her auditors should not succeed as well when they try.

Miss Parloa's lessons are characterized by extreme neatness and economy, and her practical experience has eminently fitted her for the position of teacher. Her first public appearance as a lecturer on cookery was in 1876, at New London, Conn. In the summer of 1878 she visited Europe for the purpose of continuing her studies, an account of which she gives in a letter written at Boston, February 10, 1879:

I visited the South Kensington school, but found Mrs. Clarke away. The teachers were very kind, and gave me all the information I wished. I found the school to be one large iron building with a number of smaller ones near it. In this large building were the lecture room, two practice kitchens, and a salesroom. I first went in to the lecture, which was given by three pupils, each one having her own dish to prepare and explaining it as she did the work. The room is large, with elevated seats, the prices paid for a seat depending upon the location, ranging all the way from one shilling and sixpence to five shillings, those paying five shillings having the privilege of tasting the dishes cooked. The audience that day was small, but it was one of the hot days in June; the teachers told me that they usually had a large audience of the best ladies in London. I found the practice kitchen full, where the ladies were doing the work themselves. When a dish is prepared it is brought into the salesroom and placed on a long table, when it usually finds a ready sale.

I then visited the school board, and found them very much in favor of teaching household management and cookery in the schools, and that it had been very successfully tried in their schools.

I found that in the mining districts and other sections of Great Britain they have industrial schools where cookery and household management are taught with great success.

I was not able to find that any public instruction in this department was given in France, while they have schools for nearly everything else. I learned, however, that in all charitable institutions for girls cooking was taught, with all kinds of domestic employment.

Now, in regard to the work in Boston, I think the interest is even greater than it was last year. I am working in the same way, having private or working classes in the morning and two lectures a week in the afternoon, a weekly lesson at Lasell Seminary, and occasional lectures before ladies' societies in this city and Providence.

The catalogue of Lasell Seminary for 1877–'78 says:

The pupils have enjoyed the rare opportunity of attending a course of object lessons in cooking, given by Miss M. Parloa, of Boston, now widely known and eminent in her art. The work has been well tested, and the intense interest manifested by the best students proves the thought no visionary one.

Miss Parloa's happy manner makes the hours given to her an entertainment as well as profit. The pupils are to be allowed opportunities of experimenting for themselves, putting in practice the culinary principles given in the lessons. We commend the subject to thoughtful parents. Is not your daughter as likely to be benefited by time and [illegible] as by that used in music or painting? It may not be suited to all, [illegible] more element of independence and strength for the

From a subsequent letter of Miss Parloa, June 13, 1879, the following extract is made:

Since my last report, in November, I have been very hard at work in my private classes and public lectures at my own rooms and also in lectures out of town.

The past school year I have had four classes of six each which took twelve lessons each and four classes of six which took twenty-four lessons each; whole number of pupils forty-nine, whole number of lessons one hundred and forty-four. These classes are working classes, each pupil being responsible for some one or more dishes, the work being so arranged that in most cases five members of the class are looking on and taking notes while one is preparing her dish. The ladies of whom these classes are composed are nearly all ladies of wealth, and range from the young ladies just out of school to the mothers of grown young ladies. I find that this class of ladies learn very rapidly, rarely making a failure; the verdict nearly always being that the cooking lessons are more delightful than parties or the theatre. They bring to their work culture and discipline, and it ceases to be either coarse or common and becomes a work of art, with the satisfaction that they not only learn for themselves but for their families and friends. Many of the young ladies say that nothing they ever learned has given them the power to contribute so much happiness to the family. In my lectures in the afternoon at my rooms the attendance, a part of the time, was not as full as it would have been had the weather been good. The interest in them, I am sure, is quite as great as at first. During the winter and spring I gave twelve lectures in Providence, R. I. The first of the lectures was given in a course, the title being "The use and abuse of food;" the other eleven were demonstration lessons. The audiences were composed of the most cultivated ladies of Providence and ranged from two hundred to three hundred and fifty. There is a great desire for a permanent cooking school there. I am engaged to go there one day out of each week during the coming winter. I also gave a course of ten demonstration lessons at Lasell Seminary, Auburndale. I enjoy my work at this school very much. The young ladies are so thoroughly interested, taking notes and asking questions with as much interest as old housekeepers; and it does not end here, for I often have reports of their progress in cooking during the vacation. Mr. Bragdon, who is thoroughly in earnest in making his school what all schools for young ladies should be, a school where hand and head shall both be developed as perfectly as possible, designs having a practice kitchen, where the young ladies who wish can practice what they are taught. I also gave four lectures in the new cooking school which the Ladies' Educational Union started here. In May I gave a talk on this subject at the house of Rev. Mr. Winship, of Somerville. There were quite a number of teachers from the public schools present, also members of the committee, and superintendent of public schools. Some of the teachers and committee were very much in favor of this branch being connected with the public schools. Now I have given what I have done, I wish to say a few words in regard to what I have not done and shall never be able to do, because I am only a workingwoman, depending upon my labors for a livelihood. I have not been able to teach how the commonest food can be made healthful and palatable with as little and even less expense than it is now prepared for. In most cases what is really needed is, not that all kinds of rich and fancy cooking should be taught (that is well enough in its place), but that there shall be schools all over the country, in every city, town, and village, where, for a small fee, every one can go and learn to do the common, everyday things well. These schools must be taught by educated ladies, in order that this kind of work shall not fall back to the low plane from which it is now rising. These schools should not be charity schools, for they would not then do as much good; but they could be nearly self supporting and yet the fee be within the means of all. There should be somewhere in the United States a normal school of cookery where teachers could be trained for their work, and in every town and village there should be a room where girls from eleven or twelve years

should be sent one day or part of a day every week from the public schools to learn the first principles of cookery and cleanliness. Schools like these would bring down the percentage of criminals and paupers, for dirty homes and improper food fill our prisons and almshouses with drunkards and criminals. It seems as if State and municipal governments could not long be blind to their own interests and the interests of humanity in this matter. All thinking and observing men and women see the want of this kind of knowledge among all classes; but especially is it needed among the working people, who need to know how to make the most of the little they have. I am now writing a little work which I hope to see used in these families, and, sometime, this, or a work similar to it, in our public schools.[1] I feel that we can reach so many of the poor people through their children, and it is the only way in which we can reach them successfully. The title of my book is "The First Principles of Household Management and Cooking." I expect that it will be published early in July. I feel sure of some of the schools for young ladies adopting it, but further than that I cannot say what the success may be. I feel sure that it will do good if I only can get a large circulation in the South and throughout our country places.

The prospect for next year is also a great deal of hard work. My private classes are all full, and I am engaged for three courses of lectures besides the lectures at my rooms. I find that all the schools in this vicinity, where young ladies are taught, are thinking of the plan of introducing this branch into their schools. I have demands for teachers from all parts of the country, but I have none to send, because the ladies who have been under instruction are all wealthy, and only come for the benefit of their own families. The work is waiting for the trained teachers; we ought and must have a school to train them in. In July I go to the Chautauqua Scientific and Literary Circle to give a course of lectures to the people who meet there.

A cooking school was conducted by Miss Parloa at the Chautauqua Literary and Scientific Circle and National Sunday School Assembly, held at Chautauqua, N. Y., in August, 1879. The following subjects were scientifically treated: Food, its relation to mental, physical, and moral development; the composition of meats and cereals; the proper cooking of meats for the production of nutritious, digestive, and economical dishes; preparing soups, fish, and sauces; preparation of dishes from cold meats and fish; different modes of cooking eggs, desserts, coffee and tea, chocolate, and salads. An account says:

She brought with her from the city her entire cooking apparatus and, occupying the platform of the Children's Temple, gave six lessons to a class of about ninety pupils of all ages. The elderly woman and young girl of twelve sat side by side, and both seemed equally interested. Dishes of every conceivable variety were cooked in their presence, with carefully prepared philosophical explanations of every part as the process went on. After a dish was cooked each pupil was allowed to taste it and test its qualities. In every instance the cooking and testing were satisfactory. Many who had regarded themselves as good cooks now allege that they knew nothing of the matter before.

The following modest report has been received from the Private Cooking School for Ladies in Boston:

A small school was opened in the winter of 1874-'75 at 113 Revere street, Boston, fo teaching ladies, with a subscription for furnishing but thenceforward self supportin The fee covers all materials used, as the food is consumed on the premises or may

[1] The work has since been issued by Houghton, Osgood & Co., Boston.

taken away by the ladies. The classes always consist of four, the courses of 12 lessons. For two winters it was managed by a board of ladies, but it is now in the hands of the teacher, Joanne Sweeney, who has been the teacher from the first. One hundred and seventy-two ladies and 24 nurses from the training school have been taught in 43 courses and 106 single lessons. It continues in operation and is considered successful.

Early in the spring of 1879, some of the ladies associated with the management of the Private Cooking School for Ladies, and with the Woman's Education Association, consulted Miss Corson on the subject of teaching cookery to the children of the mission schools, and decided upon a course of instruction similar to that of the New York school.

The school opened in March, and lessons were given in the best methods of plain cooking by a competent teacher of six years' experience, the pupils doing the work of preparing and cooking the food. Two classes were taught every day in the week, and every alternate Saturday a lecture was given and the cooking done by the teacher. There were more applicants than could be received.

A low price is asked for these lessons, that the school may offer its opportunities to all those who wish to earn a livelihood in this way or who would themselves directly make practical use of the instruction in their families. Terms, $1.50 for six lessons. A special course is offered to cooks, on Thursday mornings, at $2.00 for the course. Demonstration lessons will be given by Miss Parloa on Saturday of every other week, at 10 o'clock, A. M. A small amount of well prepared food will be for sale daily.

The tuition fees received and the proceeds from the sale of cooked food have more than met the current expenses of the school.

ILLINOIS INDUSTRIAL UNIVERSITY SCHOOL OF DOMESTIC SCIENCE.

In several prominent western educational institutions the interest in domestic training as a feature of school courses has passed from theory into practical exercise.

The Illinois Industrial University reports a school of domestic science, aiming to prepare young women for the housekeeper's duties. The faculty offer a full course of instruction in the arts of the household and the sciences relating thereto.

The technical studies of the department are (1) food and dietetics;[1] (2) domestic hygiene, including location, ventilation, and illumination of dwellings; (3) household esthetics; (4) household science; (5) domestic economy, as of time, money, with social usages and laws of etiquette; (6) home architecture.

[1] This study extends through two terms. The first term is devoted to the consideration of the simple aliments, such as sugar, starch, the albuminoids, fats, &c. In the second term the studies include the compound aliments: Chemical structure of the cereals, especially of wheat; the chemistry of bread making; care of milk and butter; the nature, uses, preservation, and preparation of animal and vegetable food for the healthful and for invalids; the chemistry of cooking; chemical composition, preparation, and physiological effects of the beverages, such as tea, coffee, chocolate, &c., and the effects of alcoholic drinks.

A spacious gymnasium is fitted up for the lady students, and, in connection with the exercises thus provided for, lectures are given on health, its laws and conditions.

The full course in domestic science required for the degree of bachelor of science in the school of domestic science is as follows:

First year: (1) Chemistry, trigonometry, and drawing, British authors; (2) chemistry, designing, and drawing, American authors; (3) chemistry, designing, and drawing, rhetoric.

Second year: (1) Botany, physiology, German and English classics; (2) food and dietetics (simple aliments), botany and greenhouse, German or English classics; (3) food and dietetics (compound aliments and principles of cooking, &c.), zoölogy, German or English classics.

Third year: (1) Domestic hygiene, ancient history, German or French; (2) physics, mediæval history, German or French; (3) physics or landscape gardening, modern history, German or French.

Fourth year: (1) household esthetics, mental science, history of civilization; (2) household science, constitutional history, logic; (3) domestic economy, usages of society, &c., political economy, home architecture, graduation thesis or oration or essay.

The subjects have been selected with reference to their disciplinary or esthetic value or their relation to domestic industry.

LE MOYNE NORMAL INSTITUTE, MEMPHIS, TENN.

This institution, under the conduct of Mr. Steele and Miss L. A. Parmelee, has commenced the work of domestic education with such appliances as could be immediately secured. The daily session is from 9 A. M. to 3 P. M., and it has been determined to devote one hour of this time daily to some industrial branch.

Two of the hours are assigned to the theoretical training of girls in the duties of nurses. The lessons are given in the form of lectures, from which the girls take notes and prepare essays. The review of the notes is accompanied by general and familiar conversation between instructor and pupils on the same subject. It is hoped that opportunities may arise for giving some practical training to the members of the class in their own homes, in the women's ward of the city hospital, in private families desirous of forwarding the work, or among the destitute poor.

A beginning has been made in cooking by a series of lectures on diet and the chemistry of food, but as yet the school is not able to provide an experimental kitchen. The teachers are encouraged in these practical efforts by the growing thoughtfulness throughout the school concerning habits of living.

KANSAS STATE AGRICULTURAL COLLEGE, MANHATTAN, KANS.

This institution recognizes the importance of instruction in domestic economy and hygiene. The following is extracted from the catalogue for 1877:

A course of lectures upon the subject of household chemistry is yearly delivered to

a class of young ladies. The course embraces the chemistry of cooking, the composition of food, bread, tea, chocolate, and coffee, butter and milk, ripening and preservation of fruits, &c.

* * * * * * *

Instruction without practice can effect but little: accordingly a kitchen laboratory has been completely furnished, and affords every facility for drill in the art of cooking.

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After full trial, we have found it just as feasible to give this practice with profit and pleasure to the pupil as it is to give laboratory practice in chemistry, and no more expensive.

IOWA AGRICULTURAL COLLEGE, AMES, IOWA.

The following is from the report of the college for 1876:

Domestic economy is taught to the young ladies of the junior class by lectures on the following topics: Housefurnishing, ventilation, water supply, cooking, sewing, management of help, care of the sick, training of children, dress, &c.

The following letter from Mrs. Mary B. Welch, the teacher of domestic economy in this institution, explains itself:

Your letter of April 5, asking information concerning our department of domestic economy, is received, and I reply at once.

The first instruction in this department was given in 1872 by a course of lectures to the junior girls on matters connected with housekeeping. In 1877, the trustees added a course in cooking and provided and furnished a kitchen for the use of the class. For the last two years, therefore, lessons in plain cooking have been given to the junior class, in connection with lectures on such subjects as housefurnishing, care of the sick, care of children, management of help, dress, &c. Domestic chemistry forms also a part of our course in domestic economy.

Our facilities are still further increased this year by the addition of a laundry, wherein the girls of the sophomore class are now learning to wash and iron. During March and April two afternoons a week are spent in this laundry under the careful supervision of competent teachers. In May, the class are to receive instruction twice a week in plain sewing, and are to be taught how to use the Wheeler and Wilson and Singer sewing machines. In June, an experienced dressmaker is to teach the art of cutting and fitting dresses. The kitchen will be opened the middle of July, and the class will then receive instruction in cookery two afternoons weekly until October. We are to use this year Miss Juliet Corson's Cooking School Text Book, giving the class the plain cook's course. Each student will be obliged to do the work explained in every lesson, so that when the course is finished she will have cooked every article described.

A constant and increasing interest and enthusiasm have marked our progress in this department of study, and no one of our college courses has attracted more attention or received more encouragement from the State at large.

Following is a newspaper account of what the girls are taught:

At the Iowa Agricultural College every girl in the junior class has learned how to make good bread, weighing and measuring her ingredients, mixing, kneading, and baking, and regulating her fire. Each has also been taught to make yeast and bake biscuit, puddings, pies, and cakes of various kinds; how to cook a roast, broil a steak, and make a fragrant cup of coffee; how to stuff and roast a turkey, make oyster soup, prepare stock for other soups, steam and mash potatoes so that they will melt in the mouth, and, in short, to get up a first class meal, combining both substantial and fancy dishes in good style. Theory and manual skill have gone hand and hand. Vast stores of learning have been accumulated in the arts of canning, preserving, and pickling fruits,

and they have taken practical lessons in all the details of household management, such as housefurnishing, care of beds and bedding, washing and ironing, care of the sick, care of children, &c.

THE RALEIGH COOKING SCHOOL.

Although the Raleigh Cooking School is yet hardly more than an embryo, it is so near full development and gives such promise of successful and energetic life that it is included in this account of the cookery schools of the United States.

Its inception is due to the energy of one man, John B. Burwell, esq., the head of Peace Institute, Raleigh, N. C., to whom also one of the first Kindergärten in North Carolina owes its existence. One of a family of instructors, a genuine teacher by aptitude and inheritance, he has long believed that a knowledge of household science may become a part of the system of education for girls. The prejudices to be overcome have been almost innumerable. While the need of training was acknowledged, it was deemed impossible to make it part of the regular school course, and the feeling, far stronger in the South than in the North, that a lady could hardly undertake such offices ruled, and will rule to a certain extent till wider knowledge proves its fallacy.

From natural causes, all well known, the loss of property and entire change of household administration and service, the difficulties of southern housekeeping had multiplied, and the pressure of the hard times was doubly felt by a people who, with a helplessness born of ignorance, faced the problem of how to make one dollar do the work of two. The food supply, abused and misused by negro wastefulness, must be made to go further, and yet the mistress had even less knowledge than the maid. To meet such a need, and to prevent such difficulties for the next generation of housekeepers, the Raleigh Cooking School was organized. A new and commodious wing, furnished with all necessary appliances, has been added during the past summer, and a system of instruction inaugurated, much on the model of the South Kensington and New York schools, but modified necessarily by the difference in climate, in modes of thought, &c. The present outlook seems to promise all, and more than all, the success that could have been anticipated from so novel an undertaking. The interest is very general, and the course will include not only the scholars of the institute itself, but pupils from all families disposed to send them. The course opens with lectures on the history and chemistry of food and the relations of food to health; and each lesson includes not only the manipulations and demonstrations for individual dishes and bills of fare, but an explanation of their chemical and physiological constituents and properties.

The experiment is also to be tried in the North Carolina Institution for the Deaf, Dumb, and the Blind, at Raleigh. A class of deaf-mutes has been selected, and it is confidently hoped that their keen perceptions

and trained powers of observation will make them apt and interested pupils. The officers of the board, together with the principal, Mr. H. A. Gudger, propose to fit up a room with all necessary appliances and to devote two days of the week to practical lessons. Many difficulties must be surmounted; and the teacher's work will be, necessarily, more limited than in those cases in which full explanation and periodical examinations are possible. The results are as yet unknown quantities; but it may safely be affirmed that the practice can be thoroughly taught, even if the theory must be in some degree ignored. The experiment will be watched with the deepest interest by institutions of a similar character, and if the experiment should prove as successful as the officers of the board now feel confident it must, a new and profitable field of work will be open to this exceptionally afflicted class. No attempt has yet been made to impart the same knowledge to the blind, nor will it be until the present experiment justifies itself.

The superintendent of the Raleigh Cooking School is Mrs. Helen Campbell, who received special training in the New York Cooking School.

ESTABLISHMENT OF A SCHOOL OF COOKERY AT WASHINGTON, D. C.

In the spring of 1878, Miss Juliet Corson, on the invitation of several citizens, visited Washington and delivered two lectures before the Training School for Nurses in the hall of the Labor Exchange; these were heartily commended by many persons interested in improvements in cookery and domestic economy.

In the spring of 1879 a committee, composed of Dr. Charles Warren, Dr. Richard Joseph, Mrs. Jane C. Hitz, A. S. Solomons, esq., and Mrs. S. A. Martha Canfield, was constituted with a view of securing a course of lessons in cookery by Miss Corson. It was thought best to submit this idea to ladies of character and position for their subscription and indorsement, and the following ladies at once signified their intention to patronize the undertaking: Mrs. R. B. Hayes, Mrs. W. M. Evarts, Mrs. R. W. Thompson, Miss Agatha Schurz, Mrs. M. B. Carter, Mrs. William Stickney, Mrs. Dr. Lincoln, and others. It was found that Miss Corson's engagements elsewhere rendered it impossible for her to entertain the proposition of the committee at that date.

In the autumn, the committee, finding Miss Corson at liberty to undertake a ten days' course of lessons, made the necessary arrangements to open a course in Tallmadge Hall, on October 15. Many ladies who had previously signified their interest were absent from the city, but the lessons have been attended by many of the best citizens, and have been uniformly commended. Among the ladies at some time in attendance may be mentioned Mrs. President Hayes, Miss Agatha Schurz, daughter of Secretary Schurz, Mrs. Ex-Senator Stewart, Mrs. Col. J. C. Audenried, Mrs. Charles Payson, Mrs. Dr. J. J. Woodward,

Mrs. Anna N. Woodbury, Miss Carrie Henry, Mrs. Commodore Buchanan, Miss Margaret Edes, Mrs. Dr. J. O. Stanton, Mrs. Gen. O. M Poe, Mrs. Dr. J. Taber Johnson, Mrs. J. Ormond Wilson, Mrs. Dr. Alex. Shiras, Mrs. Dr. Trimble, Mrs. H. B. Bennett, Miss Gilfillan, Miss Purrington, Mrs. Doolittle, Mrs. O'Connor, Mrs. Gen. R. D. Mussey, Mrs. W. W. Curtis, Mrs. John Eaton, Mrs. H. S. Brinkerhoff, Mrs. Jay Camp, Miss L. Joseph, Mrs. C. D. Sloan, Mrs. D. Stockham, Mrs. Dr. J. T. Young, Miss Osborne, Miss B. Ross, Mrs. Butterfield, Mrs. Merrill, Mrs. B. H. Stinemetz, Mrs. W. R. Woodward, Miss A. Colley, Mrs. Gen. E. Whittlesey, Mrs. C. B. Bailey, the Misses Bailey, the Misses Camp, Mrs. George E. Baker, Mrs. and Miss Callan, Miss Duncan, Mrs. Dr. W. T. Okie, Mrs. Dr. E. S. Kimball, Miss Junken, Mrs. W. M. Gilson, Mrs. G. M. P. King, the Misses Stinemetz, Miss Ida Coppinger, Miss Mary Murray Lockwood, Mrs. Dr. Stansberry and Miss Stansberry, the Misses Bishop, Mrs. General Lockwood, Mrs. J. H. Voorhees, Mrs. W. Orme, Miss Clare Gant, Miss Snell, Mrs. R. W. Tayler, Miss Maria Tayler, Mrs. General Blake, Mrs. Maj. A. N. Nickerson, Mrs. Col. S. L. Tullock, Dr. W. W. Patton, Mrs. Pairo, Mrs. Dr. Page, Miss Calista Halsey, Miss A. Tolman Smith, Mrs. Gen. C. H. Hovey, and the Misses Chester.

The promoters of these lessons have had in view the establishment of a permanent school of cookery in Washington. During the course the girls of the two city normal schools, of the advanced grammar school, and the pupils of the Sumner High School attended one lesson or more; also the senior pupils of Park Seminary and their teacher, Mrs. G. M. Condron; Miss Ross's pupils; Miss Osborne's pupils; and the pupils of Mt. Vernon Seminary and their teacher, Mrs. Somers. The following letter was received from Hon. J. Ormond Wilson, superintendent of city schools and president of the National Education Association:

OFFICE OF SUPERINTENDENT OF PUBLIC SCHOOLS, FRANKLIN BUILDING,
Washington, D. C., October 25, 1879.

I have been much interested in the course of lessons on cooking given in this city by Miss Corson. She evidently has a thorough knowledge of the useful art she professes to teach, and is a most skilful and accomplished instructor. I cordially commend her as a teacher whose services are greatly needed in all our cities.

J. ORMOND WILSON,
Superintendent of Public Schools.

The following letter from Dr. Patton, president of Howard University, was also received:

HOWARD UNIVERSITY,
Washington, D. C., October 25, 1879.

DEAR SIR: Allow me to say that, partly from personal attendance and still more from the reports of intelligent ladies who were present, I feel free to express a high appreciation of the practical value of the course of lectures on cookery delivered by Miss Juliet Corson, of New York, who has also manifested a philanthropic readiness to place her instruction within reach of some who, though needing it, were not possessed of the ordinary means of securing it.

Yours, truly,

WM. W. PATTON,
President of Howard University.

Hon. JOHN EATON, *Commissioner, &c.*

The representatives of several benevolent organizations conferred with Miss Corson on the subject of introducing instruction in cookery among those under their charge. At the invitation of the trustees of the Industrial Home School she visited that institution in Georgetown, and with the use of the articles regularly provided for their diet, the utensils of their kitchen, and the aid of the children themselves, showed what marvellous improvements could be made by skill, and also illustrated how successfully the subject could be taught to pupils of their ages. Among the trustees present were Mrs. W. W. Curtis, Mrs. J. S. Blackford, Mrs. S. A. Martha Canfield, Mrs. Jane C. Hitz, and Hon. John Hitz, consul general from Switzerland in the United States.

During Miss Corson's stay in Washington, Mrs. Sara Andrews Spencer, vice principal of the business college, engaged her services, assumed the financial responsibility of the experiment of having a practical cooking school, printed tickets, issued circulars, invited students and personal friends to aid her, moved her kitchen stove and utensils into the small hall of the college, and bought in market and at grocers' shops the materials required. Prof. Henry C. Spencer gave the use of the hall, gas, and fire free of charge.

The lessons were given from 8 to 10 P. M. each evening after the college classes closed. The first three nights it rained incessantly. Nevertheless, the attendance was from 30 to 60 each night, and consisted of ministers, lawyers, teachers and their wives, and young married people.

The gentlemen were quite as enthusiastic as the ladies in expressing delight at Miss Corson's skilful transformations. The dishes cooked were served hot at the table, and were readily sold at a large advance on the cost of the raw material.

Professor and Mrs. Spencer and numerous friends pronounce the experiment a complete success, and have offered the hall, gas, fire, and stove for a permanent school of cookery in Washington, and they express the hope that the 40 colleges in the Business College Association will set a similar example in their respective cities, and thus help to popularize this important department of education.

LESSONS IN COOKERY IN INDIANAPOLIS, IND.

Mrs. Elizabeth Vinton Pierce, chairman of the domestic department of the Indianapolis Social Science Association, invited Miss Corson to give a course of six lessons, with a view to awakening interest in the establishment of a permanent training school for servants in Indianapolis. The lessons were begun October 6, and were largely attended, chiefly by ladies. During Miss Corson's stay in Indianapolis, representatives of the State Reformatory for Women and Girls, the Flower Mission, and the Indianapolis Orphan Asylum conferred with her in reference to the practicability of introducing instruction in cookery among those respectively under their charge.

APPENDIX.

The correspondence of this Office with boarding schools and orphan asylums reveals not only the necessity of instruction in cookery, but the need of supplying certain practical information at once that can be furnished at present in no form so well as by the specific suggestions of dietaries which recognize the condition with respect to age, &c., of those for whom they are designed. The following have therefore been supplied on request by Miss Juliet Corson, superintendent of the New York Cooking School:

To plan dietaries which can be applied to special uses it is necessary to study several leading points: first, the age, sex, and occupation of those for whom the dietaries are intended; second, the climate in which they live, whether warm or cold, and the location of their dwelling, whether upon a mountain or plain; third, a due variation of aliment, and that containing sufficient water and waste matter to supply the demands of the system without overtaxing the digestive organs; fourth, the selection of foods locally well known, and their provision in quantities adequate to the requirements of the consumers.

PHYSICAL TRANSITION DURING CHILDHOOD.

At the period of childhood the transformation of the nutritive elements of food into that healthy and well nourished blood which is the source of physical and mental strength goes on with greater rapidity and persistence than at any other time of life: hence the importance to children more than to grown persons of an abundant supply of wholesome food. The underfeeding of a child is equivalent to the deliberate destruction of his mental faculties as well as the ruin of his health. It is a sure means of giving him a weak mind and a defective constitution, of making him an inefficient member of society, and of sending him to an untimely grave. Facts warrant us in saying that the parent, guardian, or instructor who permits a child to suffer from innutrition is as much his destroyer as if life were ended at one blow.

ADOLESCENCE.

Especially from the age of twelve years up to eighteen, the greatest and most unremitting care is demanded, if children are to grow up into healthy and well developed men and women. This is a time of rapid growth and marked physical changes; and these conditions are attended with the exhaustion of all that reserve force which may have been accumulated during a well nourished childhood.

It often is the case at this period of life that the appetite fails perceptibly or becomes abnormal; the task of meeting such contingencies is imperatively imposed upon those having the charge of the youth of either sex. Exercise in the open air and freedom from vexations or severe study should be secured; the action of the skin and bowels should be carefully regulated, and the supply of nutritious food, especially of flesh forming materials, should be ample.

The ordinary occupation at this time of life is study, and even the lighter studies are more arduous than the greatest amount of open air exercise or any manual labor which is not excessive; so that even under the most favorable physical conditions the system must be well nourished.

EFFECT OF CLIMATE AND SEASON.

In cold climates and during the winter season an abundance of heat food is required. A well housed and warmly clad person requires less food than one thinly clad and exposed to the severity of the elements. The inhabitants of hilly regions consume more heat food than those who live in the lowlands, and a greater quantity of all kinds of food. The system demands the most generous supply of food when the season is coldest, as in midwinter.

NECESSITY FOR WATER AND WASTE IN FOOD.

The important part which water holds in the nourishment of the body can readily be comprehended if we remember that it constitutes at least two-thirds of the entire substance of the body and nine-tenths of the volume of the blood. Its office is to assist in the digestion and distribution of food elements, and to forward the elimination of the worn out particles of the body. All flesh foods contain more or less of it, and all concentrated and dried foods should be cooked with a liberal addition of water. Soups and stews, which are exceedingly wholesome and nutritious, usually contain about three-fourths of water.

In addition to water, a healthy type of food must afford considerable waste matter or innutritious particles. If food is too highly concentrated or composed entirely of nutritive elements, it cannot keep up the natural and healthy action of the digestive organs; a certain proportion of waste is indispensable.

The woody fibre of vegetables and the bran or husks of cereals are waste matter; they are not consumed in the system, but serve to render food less compact, thus facilitating its mingling with the gastric juices; and the stimulus caused by their presence in the bowels promotes the excretion of the worn out particles of the body.

Foods containing a wholesome quantity of waste matter are called relaxing foods, and include bread made from unbolted flour, rye, and corn meal, and fresh fruits and vegetables. Foods composed almost entirely of nutritious elements, such as eggs, milk, meat, and fine white flour, are constipating in their effect upon the system.

CONDIMENTS AND STIMULANTS.

The value of all condiments, except salt, when used with food consists in their action in promoting the appetite and stimulating the digestive organs; as both appetite and digestion are usually normal in youth, condiments are not required and should be used sparingly. Salt, however, is indispensable to health, and should be supplied in a sufficient quantity to meet the demands of an unperverted appetite; a vigorous youth requires, carefully blended with his food, about half an ounce of salt per diem.

Alcoholic stimulants are absolutely injurious to the expanding system, because their tendency is to retard that change of tissue so essential to the process of growth. Where physical debility is marked stimulants may be valuable, but they should be used only by direction of a physician.

ACTION OF TEA AND COFFEE.

The action of tea and coffee upon the system is a theme prolific of discussion, but the fact is conceded by the best authorities that both these agreeable beverages, when used in moderation, exercise a pleasantly stimulating and "staying" influence; that is, they so far retard the process of destructive assimilation as to render the sensation of hunger less acute and to reserve a certain amount of strength even during hard labor. In youth, the change of the nutriment contained in food into well nourished blood should never be retarded, and sufficient strength should be supplied by food to meet all the demands of the body; therefore the action of tea and coffee is undesirable.

FOOD VALUE OF COCOA AND CHOCOLATE.

Cocoa and chocolate have a somewhat similar stimulating effect, but as they also possess considerable fat and nutriment their moderate use in youth is less objectionable than the use of tea and coffee.

MILK AS A NUTRIENT.

But the proper beverages for youth are moderately cool water, of the temperature of about 45° F., and plenty of sweet, pure milk.

Actual scientific experiments, made in England by Dr. Ferguson, an inspector of factories, establish the fact that between the ages of thirteen and sixteen children grow nearly four times as fast, and become correspondingly strong, on milk for breakfast and supper as when ordinarily strong tea and coffee are used. With plenty of milk, about one quart per diem, and bread enough to satisfy the appetite, a child would be well nourished; but after reaching the age of seven years the physical requirements of children are best met by a plain mixed diet.

PROPER TEMPERATURE OF FOOD.

The temperature at which food is eaten should approach that of the stomach, about 100° F., so that the process of digestion may not be impeded. Food cannot be digested until it is heated to this temperature; and, unless the necessary heat is artificially supplied before its introduction into the stomach, that organ must be taxed to afford it. This fact accounts for the unwholesome effect of ice cold water upon the process of digestion. Too great a degree of heat in food is also injurious to the digestive organs, by causing irritation and weakness, besides tending to destroy the teeth.

VARIETY OF FOOD NECESSARY TO HEALTH.

Monotony of diet is to be avoided because it restricts the supply of food elements essential to good health; but unfounded fancies about new or peculiar articles of food should be corrected firmly and kindly, unless some physical indiosyncrasy justifies their indulgence. Because the equal and adequate nourishment of the body influences the formation of both mind and character the utmost care should be given to the selection of the diet; and where vitality is impaired even in a slight degree means must be employed to increase the desire for food.

A wholesome and abundant variety of food can be obtained in almost any civilized locality: broiled and roasted meats, poultry and fish cooked so as to preserve all their natural juices, rice, macaroni, eggs plain boiled and rather soft, milk, and sugar are all common and healthy foods; all seed bearing fruits are excellent, especially apples, pears, grapes, and berries; such succulent vegetables as potatoes, spinach, green corn, onions, celery, lettuce, carrots, pease, and beans are wholesome, plentiful, and cheap. Sago, arrowroot, and tapioca, unless combined with plenty of milk and eggs, are of but little use, except during illness, when some bland, simple food is required to satisfy the slight alimentary needs of the system.

EFFECTS OF INDIGESTIBLE FOODS.

Such indigestible articles as fat meat, rich pastry, hot bread, unripe fruit and vegetables, tea, coffee, spices, condiments, pickles, and stimulants, should be avoided. Children fed upon such articles often appear plump, but their muscles will be found to be soft, their bones small and weak, and their systems predisposed to inflammatory affections.

To counteract the deleterious effects of such diet plenty of lean meat, fish, oatmeal, graham bread, eggs, milk, apples, onions, celery, asparagus, cauliflower, spinach, and salad vegetables should be given. The breakfast should be given soon after rising, the dinner at noon, and the supper at least two hours before retiring.

PHYSICAL INDICATIONS OF COMPLETE NUTRITION.

If the supply of food answers all physical requirements both body and mind will be well developed in proportion to the age; the eyes will be bright, the cheeks rosy, the form plump, and the spirits exuberant. Any degree of health short of this shows that the amount of nutriment assimilated is insufficient to satisfy the daily demands of the system and permit that accumulation of force required for the vigorous development of the growing body.

When educational exigencies seem to interfere with this reserve of vital force they should be alternated with a sufficient degree of open air exercise to insure it, and the proportion of milk, eggs, meat, and bread in the daily fare should be increased; especially milk should be supplied in a quantity satisfactory to the appetite.

STUDYING BEFORE BREAKFAST.

Studying before breakfast is not conducive to general good health, but a moderate degree of open air exercise will promote an appetite. If part of an hour must be filled with some studious occupation it should be judiciously combined with relaxation; a short walk in some rural locality or a visit to the greenhouse would afford occasion for botanical instruction combined with healthy exercise; and in rainy weather music, drawing, and light gymnastics offer a choice of suitable occupations for both teacher and pupils.

NECESSITY FOR EARLY BREAKFASTS.

The experiments of Dr. Edward Smith and other eminent investigators prove that the greatest vital action takes place in the early part of the day, that the digestion and assimilation of food are most easily and naturally performed at that time, and consequently that the most nutritious food should then be supplied in abundance.

The danger of overeating at breakfast is provided against by the fact that it is usually composed of simple viands plainly cooked. A healthy child never finds that a hearty breakfast causes indigestion; the activity of the system makes ample provision for the use of all the nourishment it can obtain; it is only towards evening that the force of the vital functions is diminished and that the system becomes unable to assimilate an excess of nutriment.

If the rising hour is about six in the morning the breakfast should not be later than seven; if the meal is likely to be delayed beyond that hour a cup of milk and a slice of bread should be taken after dressing. The use of this slight refreshment does not warrant the deferring of the breakfast proper until ten or eleven o'clock.

The breakfast should consist of such plain fare as bread, butter, eggs, or fish, all simply prepared, and plenty of milk. The healthy appetite should be completely satisfied at this meal, for, as we have already said,

the vital actions are keenest from rising until noon, and the long fast of the night has depleted the system of the nutriment derived from food during the previous day.

MIDDAY DINNERS BEST FOR HEALTH.

Equally important with a hearty breakfast is a full and wholesome early dinner of freshly cooked warm meat and vegetables, plenty of bread, and some plain pudding or fruit; these should be well masticated and accompanied by about half a pint of fresh cool water as a drink. The meal may be varied with nutritious soups, stews of fresh meat, and red blooded fish.

LIGHT AND EARLY SUPPERS.

The supper should be composed of light and digestible aliments in quantity sufficient to satisfy the appetite, and should be eaten at least two hours before retiring.

Abundantly nutritious suppers for boys may be made up of bread, milk porridge, a little tapioca or sago pudding made with milk and eggs, or a custard, together with a glass of milk or of moderately cool water. Bread with stewed fruits, as apples or prunes, serve to vary the meal pleasantly, without overtaxing the digestive powers.

For girls a little warm milk or a cup of weak cocoa may be added with advantage.

Suppers for both boys and girls should be composed of the most digestible foods, because it is imperative to health that the hour for retiring should be early, and digestion should be well advanced before that time. When any unusual exertion or excessive fatigue seems to demand a heavier repast sufficient time for digestion should be allowed before retiring; if fish is used sleep should be deferred at least two hours; meat and eggs digest in about three hours, and consequently the bedtime should be graduated accordingly.

NECESSARY DAILY QUANTITY OF FOOD.

Boys from fifteen to twenty years of age require nearly as much food as men; that is, about six pounds per diem.

Girls of the same age require about four pounds. Nutritious soups are especially useful when there is any indication of malnutrition in either sex.

For both boys and girls the character of the food should be largely determined by the appetite, unless it has become very much perverted. Girls are far more apt to be "notional" about their food than boys and should be much more closely watched.

DAILY DIETARIES.

The facts already cited warrant us in outlining the following dietaries for the youth of both sexes; of course the quantities must be varied to

suit individual cases, but the supply should always be ample and appropriate:

Dietary for children from 6 to 10 years of age.

Bread.	Milk.	Butter.	Meat.	Vegetables.	Pudding.	Fruit.
Unlimited.	1 pt., or soup ½ pt.	2 oz.	5 oz., or fish 8 oz.	8 oz.	6 oz.	4 oz.

Dietary for children from 10 to 14 years of age.

Bread.	Milk.	Butter.	Meat.	Vegetables.	Pudding.	Fruit.
1 lb.	1½ pts., or soup 1 pt.	3 oz.	8 oz., or fish 12 oz., or eggs 3 oz.	12 oz.	8 oz.	8 oz.

Dietary for youths from 14 to 20 years of age.

Bread.	Milk.	Butter.	Meat.	Vegetables.	Pudding.	Fruit.
1½ lbs.	1½ pts., or soup 1 pt.	4 oz.	12 oz., or fish 16 oz., or eggs 5 oz.	1 lb.	8 oz.	8 oz.

TABLE OF COMPARATIVE FOOD VALUES.

The following table, compiled from South Kensington estimates, gives some idea of the relative nutritive value of those articles of food in general use throughout the United States; a little study will afford hints for the variation of everyday fare. The figures represent a fair average, but of course are not arbitrary, because the same kind and quantity of food presents different nutritive qualities at different seasons of the year: for instance, juicy fruits are best at the point of ripening; succulent vegetables just before flowering; roots and tubers at their early maturity; and meats and poultry in the winter, when they are generally full grown, and when the temperature permits their preservation until the hardness of fibre which exists in very recently killed meats has passed away.

The following table shows what proportions are yielded of one pound of articles named:

	Heat food.	Flesh food.	Mineral salts.	Water.
Bread	10 oz.	2 oz.	⅛ oz.	3⅝ oz.
Meat	3 oz.	3 oz.	¼ oz.	9¾ oz.
Cheese	4½ oz.	5¼ oz.	⅛ oz.	5¼ oz.
Milk	1⅛ oz.	⅛ oz.	⅛ oz.	13⅝ oz.
Eggs	1½ oz.	2⅛ oz.	¼ oz.	11¾ oz.
Fish	1 oz.	2⅛ oz.	¼ oz.	12¼ oz.
Poultry	2 oz.	1⅛ oz.	⅛ oz.	12 oz.
Fresh fruit; Juicy vegetables	2 oz.	1 oz.	½ oz.	12½ oz.
Wheat flour, rice, oatmeal; Macaroni, dried pease and beans	12 oz.	2½ oz.	¼ oz.	1¼ oz.
Animal fats; Butter; Oil; Sugar; Arrowroot	14 oz.	A trace.	A trace.	2 oz.

ORDINARY CLASSIFICATION OF FOODS.

Foods are classified, in accordance with the preponderance of certain elements, as carbonaceous, or heat food; nitrogenous, or flesh foods; and phosphatic, or brain and nerve food.

Heat foods include white flour, sugar, honey, molasses, butter, milk, corn starch, arrowroot, potatoes, beets, beans, turnips, carrots, parsnips, grapes, and all sweet fruits, and liver and fat meat.

Flesh food abounds in lean meat, oatmeal, whole wheat, eggs, cheese, onions, cabbage, asparagus, salads, celery, cauliflower, and spinach.

Brain and nerve food is found in fresh fruit, unbolted flour, succulent vegetables, game, poultry, oysters, and in certain chemical compounds usually employed by physicians in special dietaries.

All nutritious and easily digested foods are included in these classes of nutrients.

LOCAL DISTRIBUTION OF FOODS.

Inland, throughout the United States, the food in general use is carbonaceous and nitrogenous, with the former somewhat in excess. Upon the seaboard and in the vicinity of lakes and rivers the abundance and variety of fish give the diet a phosphatic character. Local dietaries in the Eastern States include too great a proportion of hot breakfast cakes, pickles, and pies, while the supply of fruit and vegetables is limited. Similar conditions are marked in the Middle States, but the abundance of fruit and vegetables and of excellent poultry modifies the diet considerably. In the West, except in some of the larger cities, the same kind of food is used as in the East, with the addition of pounded and fried meats; fruit and vegetables are abundant and early, but not sufficiently appreciated; the chief meats are beef and pork. In the South the supply of fruit and vegetables is somewhat limited, although several fine varieties of the latter are indigenous, but poultry is abundant and fine fish is plentiful near the seacoast. Two totally different kinds of cookery dispute for ascendency: one derived from the genuine culinary ability of the early French and English inhabitants and the other the abominable outgrowth of the dominion of grease. Bacon is the chief cured meat, and corn is abundantly used, both in a fresh and dried state.

GENERAL SUITABILITY OF LOCAL ALIMENTARY PRODUCTIONS.

In accordance with that impartial justice which demonstrates the eternal fitness of nature's laws, every locality seems to favor the production of such foods as are essential to the health of its inhabitants; this local abundance has led to the use of such alimentary combinations as serve to guide even the most inexperienced caterer.

Without understanding the rationale of the proceeding, the farm laborer relishes a bit of fat pork or bacon with his meal of vegetables or bread; the sailor, returning from a long voyage during which his diet has

been composed chiefly of salt or concentrated foods, instinctively feasts upon vegetables; the native of the tropics craves those juicy fruits with which bountiful nature provides him; and the tribes dwelling near either pole eagerly devour fats in their simplest form.

Despite these ruling facts variations in the character of local dietaries are occasionally demanded by individual tastes and physical conditions; and they can readily be effected by any intelligent person after a little study of the chemical composition and nutritive value of different alimentary substances.

QUESTIONS GIVEN GIRLS IN BOARD SCHOOLS OF LONDON.

The following questions illustrate in a simple and forcible manner the character of the instruction in cookery which is given by the teachers to the advanced girls in the board schools of London:

Name and explain briefly the six commonest ways of cooking meat. Give a full recipe for preparing a piece of meat in any one of the ways you mention.

Name six of the most valuable fresh vegetables used in this country.

Give recipes for boiling old potatoes, for boiling cauliflower and serving it with melted butter.

What are the general rules to be observed in roasting meat?

How long would it take to roast seven pounds of beef, and how would you set about it?

How would you make a leg of beef soup?

What are the different methods of preparing beef tea? Give two of recipes.

How would you make a quart of flour into bread?

Give the recipe for a meat pie.

What is the difference between the flesh of white and oily fish?

How would you stuff and bake a haddock?

What is pot-au-feu? How would you prepare it with six pounds of beef? What beef would you use and what other ingredients?

Mention some ways of recooking old meat.

What dishes can you prepare with Australian meat? Give the recipe for one.

Give the rules for boiling meat, and the time allowed.

How would you prepare an Irish stew?

How would you prepare a dish of beef à la mode?

What utensils are necessary for a small kitchen?

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 5—1879.

AMERICAN EDUCATION AS DESCRIBED BY THE FRENCH COMMISSION TO THE INTERNATIONAL EXHIBITION OF 1876.

WASHINGTON:
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1879.

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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
November 15, 1879.

SIR: The government of the French Republic, appreciating the importance of education to the existence and prosperity of a free state, has ever since its establishment given particular attention to the subject. In 1876, an able commission of French school officials and teachers, with the distinguished M. Ferdinand Buisson for its chief, was sent to study the school systems and educational methods of the United States in connection with the Centennial International Exhibition of that year. One result of the commission's labors is an elaborate report (of 702 pages) on our elementary and secondary instruction made to the minister of public instruction, worship, and fine arts, and published under his auspices.[1]

This report is a very remarkable document—philosophical, judicious, acute; the work of men familiar with education at home and eager to study it abroad; instructive to the authors' countrymen in one way and equally to Americans in another; a friendly criticism of some things in American education and a discriminating praise on other points. It has been read in the original by several school officials of prominence, who have unanimously urged me to publish a résumé of its contents in English for the use of educators in this country. With this recommendation my own judgment coincided, and accordingly I have caused the material accompanying this letter to be prepared, always having in view the necessity of being as brief as justice to the original would allow.

I have the honor to recommend its publication as a circular of information; and I am, sir, very respectfully, your obedient servant,

JOHN EATON,
Commissioner.

The HON. SECRETARY OF THE INTERIOR.

Approved, and publication ordered.

C. SCHURZ,
Secretary.

[1] Rapport sur l'instruction primaire à l'exposition universelle de Philadelphie en 1876. Présenté à M. le ministre de l'instruction publique au nom de la commission envoyée par le ministère à Philadelphie, par F. Buisson, président de la commission. Ouvrage publié sous les auspices du ministère de l'instruction publique, des cultes et des beaux-arts. Paris, Imprimerie nationale, 1878.

THE FRENCH COMMISSION ON AMERICAN EDUCATION.

INTRODUCTORY REMARKS OF THE COMMISSION.

Before giving an account of their work, the undersigned take pleasure in expressing here their sincere gratitude for the hearty welcome they received from the school authorities at the Philadelphia Exhibition and in all the different institutions of learning they visited.

At Philadelphia, West Chester, Kutztown, Pittsburgh, Washington, Boston, New York, Cleveland, Cincinnati, Louisville, St. Louis, Chicago, and Milwaukee, as well as in localities of less importance which one or more members of the commission have had the opportunity to visit, they found the same courteous readiness not only to give the commissioners access to the schools, but also to facilitate the accomplishment of their task by abundant information, by intelligent explanations, by the completeness of the documents generously placed at their disposal, and by the entire cordiality with which they were invited to see and examine everything themselves, their attention being called not only to the merits but also to the defects of the school system. The commissioners take the liberty to thank in particular and publicly Mr. John Eaton, the eminent director of the National Bureau of Education; Mr. William Wood, president of the New York City board of education; and Messrs. Philbrick, Wickersham, Kiddle, Pickard, Rickoff, MacAlister, Harris, and Phelps, superintendents of schools who will be mentioned frequently in this report and who have been guides at once trustworthy and courteous.

The same grateful acknowledgment is tendered to the school authorities of Canada. Two of the commissioners who visited several cities and rural districts of the province of Ontario and the two largest cities of the province of Quebec received such a hearty welcome that they will keep that country in grateful remembrance.

Signed by the members of the commission: F. Buisson,[1] B. Berger, E. Laporte, Olagnier, A. Valens, Rauber.

[1] The Commissioner believes that the American people will be pleased to know something further of M. Ferdinand Buisson, chief author of the report in question. Attracting, while still youthful, the attention of the French government, M. Buisson was selected by M. Jules Simon, minister of public instruction, for the reponsible position of special delegate to the Vienna Exhibition in 1873. M. Buisson was to study the educational systems of the countries there represented and to report upon the same after his return. His report, which appeared in 1875, comprised 360 pages of valuable information, the United States receiving special attention. Shortly after its publication, M. Buisson was appointed inspector of primary schools.

DIVISION OF THE WORK.

The following list gives the subject of each chapter and the name of the commissioner to whom each subject was assigned for examination and report:

CHAPTER I.—The free school system.—*Buisson.*
CHAPTER II.—School organization and administration.—*Laporte.*
CHAPTER III.—Public school finances.—*Laporte.*
CHAPTER IV.—City schools.—*Laporte.*
CHAPTER V.—Country schools.—*Laporte.*
CHAPTER VI.—Coeducation.—*Buisson.*
CHAPTER VII.—Primary education in the Southern States.—*Buisson.*
CHAPTER VIII.—School-houses and school furniture.—*Berger.*
CHAPTER IX.—Infant schools, Kindergärten, and primary schools.—*Berger.*
CHAPTER X.—Reading.—*Valens.*
CHAPTER XI.—Writing.—*Valens.*
CHAPTER XII.—Instruction in the vernacular.—*Berger.*

By law of June 26, 1876, the minister of public instruction, M. Waddington, was authorized to appoint an educational delegation to the Philadelphia Exhibition, and to spend for the purpose 25,000 francs. M. Buisson was selected for the most important position in the delegation, the presidency, and five other educators were appointed his associates.

M. Buisson made an exhaustive study of education at the Centennial and in the United States at large, the result of which is embodied in a report of some 700 pages. In addition, he published translations of pupils' work at the Centennial, covering 508 pages of specimens. The appreciation of his services was expressed by his renewed appointment to positions of great responsibility.

In 1878, he was made inspector general of primary schools and also secretary of the statistical commission charged with the preparation of decennial statistics of primary education in France. The first volume of these statistics, already published, covers 289 large quarto pages.

Besides these numerous duties, M. Buisson found time to prepare, in company with four other eminent educators, the following works: Devoirs d'écoliers étrangers à l'Exposition de Paris, Devoirs d'écoliers français à l'Exposition de Paris, and Travaux d'instituteurs à l'Exposition de Paris.

M. Buisson was moreover one of the most active promoters of the organization of "conferences" for the 12,000 teachers invited by the French government to visit the Paris Exposition. The reports of the conferences have been printed, and we find M. Buisson represented in the volume by a conference on the intuitive method which covers 37 pages.

When an educational museum was to be established by the government, there was no one so competent to organize the same as M. Buisson; indeed, he succeeded in accomplishing more in a few months than other countries have done in years. The Musée pédagogique of Paris is an established fact, a result largely due to the zeal of M. Buisson.

In addition to these achievements, we see M. Buisson, during the busy year of 1878, undertake the publication of a "Dictionnaire de pédagogie," of which 32 pages are to appear twice a month.

On the resignation, last fall, of the highly esteemed and very able director of primary education in the ministry of public instruction, M. Boutan, a successor had to be appointed. No one was surprised that M. Buisson was selected for the place, especially at a time when a thorough reorganization of education is the programme of the republican government.

CHAPTER XIII.—Geography.—*Buisson.*
CHAPTER XIV.—History and government.—*Buisson.*
CHAPTER XV.—Arithmetic.—*Olagnier.*
CHAPTER XVI.—Bookkeeping, algebra, geometry, and geometrical drawing.—*Olagnier.*
CHAPTER XVII.—Physical and natural sciences.—*Valens.*
CHAPTER XVIII.—Drawing and the historical development of methods of teaching it.—*Berger.*
CHAPTER XIX.—Drawing in primary schools, with specimens of pupils' work.—*Rauber.*
CHAPTER XX.—Singing and music.—*Valens.*
CHAPTER XXI.—Gymnastics.—*Rauber.*
CHAPTER XXII.—Religious instruction.—*Buisson.*
CHAPTER XXIII.—Moral education.—*Buisson.*
CHAPTER XXIV.—High schools.—*Buisson.*
CHAPTER XXV.—Normal schools.—*Berger.*
CHAPTER XXVI.—Teachers' institutes, examination of teachers.—*Berger.*
CHAPTER XXVII.—Auxiliaries to the school system.—*Berger.*
CHAPTER XXVIII.—Private schools.—*Rauber.*
CHAPTER XXIX.—School statistics.—*Buisson* and *Laporte.*
CHAPTER XXX.—Résumé and conclusions.—*Buisson.*

THE FREE SCHOOL SYSTEM.

"A republican government needs the whole power of education." These words of Montesquieu have, perhaps, never found a more striking application than in the subject which we are now about to consider. If there be a nation which has expected everything from this power of education, which has intimately united its national destinies with the development of its schools, which has made public instruction the supreme guarantee of its liberties, the condition of its prosperity, and the safeguard of its institutions, that nation certainly is the people of the United States.

The peculiar position assigned to the school in American social life has always been one of the first points to attract the attention of foreigners.

The great zeal for the education of the young which grows as the population increases, penetrates into the public mind more and more, and manifests itself in more and more decided ways. What may have seemed at first a transient glow of enthusiasm, a generous impulse, has in time assumed all the force of a logical conviction or rather of a positive certainty. It is no longer a movement of a few philanthropists or of a few religious societies, but it is an essential part of the public administration, for which the States, the cities, and townships appropriate every year more money than any other country in the world has hitherto devoted to the education of the people. Far from limiting this generosity as much as possible to primary instruction, it goes so far as to declare free for all not only primary but even secondary schools.

The laws and customs of the country are in perfect harmony in regard to this practice; public opinion approves and even insists upon these sacrifices, so evident has it become to every one that the future of the American people will be whatever its schools make it.

Among the many influences which gave the American school this unique importance, the influence of Protestant ideas was one of the first. The early settlers of New England did not recognize a more important duty or a greater privilege than that of reading the Bible. The first charter of every settlement compelled it to establish schools and compelled every family to educate its children.

As soon as democratic institutions were more fully developed, the former religious duty became gradually a political necessity. The form of the United States Government established a hundred years ago, making everything depend upon the will of the people, assumes that will to be enlightened as the only safeguard against the worst calamities.

The United States have been peopled by continuous immigration. But what does this immigration bring to the country? People of different origins, classes, and religions. The many thousands that arrive have frequently nothing in common except the desire which animates nearly all immigrants, viz, to improve their condition. No previous education has prepared them for this new political and social government which was not intended for them; for what could less resemble the Puritan colonists of New England than the heterogeneous, unstable, and ignorant mass which constitutes the greater part of the immigration? These are the elements of which a nation has to be made; without roughly assailing, too, the veneration immigrants feel for any former national or religious customs, all must be "Americanized" as fast as possible. It is necessary that within one or two generations the Irish, Germans, French, Scandinavians, Spaniards, shall not have the slightest inclination to constitute nations within the nation, but that they shall all have become Americans themselves, and be proud of being so.

What is the cause of this wonderful transformation? What instrumentality infuses American blood into the veins of these thousands of people who have hardly had time to forget Europe? Every statesman will tell you, "It is the public school;" and this single service which the school renders to the nation is considered by many Americans sufficient to justify all the expense it involves. Suppose the immigrants were left to their own inspirations, and instead of public schools should find only private institutions; everything would be different: each person would keep up his own customs or preferences; each group would constitute itself separately, preserve its own language, traditions, religious customs, its old national spirit, and its prejudices. In denominational schools the distinction between rich and poor, paying and non-paying pupils, would necessarily be perpetuated and emphasized. * * * And without fusion of races, without a uniform language, without equality of social classes, without reciprocal toleration among the different denominations, and, above all, without an ardent love for the new country and its institutions, would the United States still be united?

That this country has become and that it remains what it is, is literally

due to the public school. But in proportion as the public school grows the dangers that threaten it are increasing.

It is asserted nowadays, at least in the Northern and Eastern States, that the native American population does not increase nearly as rapidly as the population of foreign or mixed parentage. Whether the cause of this is to be sought in what General Walker describes by the words "careful avoidance of family increase," or in a physiological degeneration of the race, as some scientists assert, it is not impossible to foresee the time at which the American element, properly so called, will be in a minority; and, although this time may still be distant, the United States have an evident interest in not neglecting anything which will imbue the adopted population with the American spirit. In the absence of a sufficient number of direct descendants, the American Republic increases the number of her children by adoption, and if these are not hers by blood, she is determined that they shall be hers in spirit and in heart, and this she accomplishes by means of the public schools.

But this is not all. Not only is the race menaced, but also the public spirit, the spirit of American institutions, the very soul of the Republic. We are not of those who, overlooking the prodigious proofs of material and moral vitality which the United States have manifested, do their utmost to discover in this great body germs of decomposition or delight in predicting its approaching ruin. We do not forget that this nation has in its immense territory the greatest resources of natural wealth, in its character the most powerful impulse toward activity, in its historical traditions the most noble and lasting example of energy, labor, courage, and national honor, and political institutions the most favorable to its free development. These are the forces which are to resist the most formidable attacks. But while our faith in the destiny of the United States is unshaken, we cannot ignore the formidable problems which that country has still to solve.

Before the United States reached the first centenary of their independence they witnessed the beginning of a crisis; and who knows when it will end? The civil war has left marks of the explosion of the evil, but the war is over and the evil still exists. The antagonism of races, traditions, and interests which led to this bloody duel between the North and the South; the irruption of the negroes into public life, which, although just, was nevertheless a terrible chastisement for the injustice of a century; the difficulty of maintaining for a long period the ties which connect in an extensive territory people differing as much as those of New England, the Southern, the Western, and Northwestern States, and the States on the Pacific coast—all these burning questions of American politics are so serious that Americans themselves no longer try to ignore them. These questions are, however, kept in the background by a more vital yet almost intangible danger: the change, or rather the corruption of politics.

The writer mentions with disapproval the practice of removing

officials for purely political causes, and refers those of his readers who desire more information on this subject to the work on the executive power in the United States, published in 1876, by Monsieur de Chambrun, of Paris;[1] he also quotes the report of a congressional committee on election frauds, and cites Daniel Webster, who saw in the public schools a remedy for such evils. He then continues as follows:

Americans are led to believe the more in this slow remedy, because they best feel the gravity of the situation. When a nation has left during forty years the control of public affairs to a class of men not equal to the task, it is not the work of a day to remedy the evil. It would be necessary for the best part of the population to make great efforts to regain possession of the government; but how can this be accomplished?

There remains but one remedy, the slow working of time and education; and the citizens who are at present discouraged and resigned to the transient domination of politicians are precisely those who place most confidence in the future. They flatter themselves that by a better training of the rising generation, and by giving the children of the lower social classes an education worthy of free citizens, they will gradually diminish both the number of intriguers and the number of dupes. This preoccupation, which, in the absence of anything better, is a sort of American patriotism, contributes more than we are able to tell to keep up interest in the schools.

The unanimity of effort which the cause of popular education generally evokes results from these differing and to some extent contradictory springs of action. This is the only question which no one ignores. The optimists, those who are still too proud of their country to let anything shake their confidence in the great destinies of the Union, see in the public school one of the glories of America which it is of importance to preserve in its splendor. Others, who feel anxious for the fate of the Republic, also take an interest in the school; it is the last cherished hope they will part with. And the extreme pessimists say, If the country can be saved, it will be by its schools.

If the political future of the United States depends on the efficiency of her schools, her commercial future is no less directly interested. The conditions of labor in the New World are such that success depends, as it were, on a certain degree of education. In industrial, commercial, agricultural, financial, or other occupations, the success of each will be almost in proportion to his intelligence. No one finds his career definitely marked out. If it is becoming rare in the Old World to see sons follow the profession of their fathers during several generations, in the United States it is still more exceptional. The spirit of initiative, of enterprise, of adventure, even, is the result of this entirely new civilization; there is no America without the "go ahead." Work without any other aim

[1] Le pouvoir exécutif aux États-Unis, étude de droit constitutionnel, par Adolphe de Chambrun. Paris, 1876.

than a moderate salary, the humble prospect of a life of toil, is not the ideal of the American. No people works more, but, also, no other people attaches a higher value to its labor than the American people. What Europeans call Yankee greed or speculation is nothing but the effect of this intelligence which accompanies their work and of the high price which they demand for their labor. "To be content with little," advice of ancient philosophy, finds no credit in the New World. Under these circumstances education has a double value: it has besides its real value a kind of surplus value, resulting from its practical and commercial usefulness. The whole political economy of the United States takes this for granted; without it, neither the farmer nor the business man would be able to calculate his chances of success; the artisan and the laborer would not endeavor to improve their work, to lessen their hardships, or to increase their profits. The wealth of the United States is incalculable precisely because intellectual wealth counts for an enormous proportion. We sometimes think that the eagerness of the Americans to support and improve schools is a kind of national pride, vanity, or show. Not at all. It is a calculation, and a sound one; enormous advances are made, but it is known that they will be returned a hundredfold.

In 1870 the United States Bureau of Education sent several thousand circulars to workmen, employers, and observers who were supposed to know the condition of the working classes. These circulars solicited information in regard to difference of skill, aptitude, or amount of work executed by persons employed which arose from a difference in their education and independent of their natural abilities; whether those who could read and write showed any greater skill, and how such skill tends to increase their wages; whether they are more economical; whether, finally, educated laborers were preferred. The answers sent to the Bureau of Education are most interesting. With one exception, all the correspondents recommend, for economical reasons, the education of the people, because, they say, intelligence increases the value of manual labor. The only exception was in the planters ot the Southern States, who were almost all opposed to the education of the negroes. Some asserted that the colored people are not fit for education or civilization; others, that the negroes do not need education, and that the more they resemble beasts of burden the more easily they can be made to work.

Besides political and economical motives, there is still another, the moral motive, which must encourage the United States in their zeal for public education. If the Americans expect their public schools to prepare citizens who shall be permeated with the national spirit, it is not less necessary that the young generation be imbued with sufficient moral principles; and to accomplish this the school is the principal, often the surest, instrumentality.

From a variety of causes, family ties are far less strong in the United States than in Europe. The frequent separation of the parents which

results from commercial and agricultural occupations in an immense territory; the feverish zeal of many fathers in business; the general spirit of independence; the custom of self government which the young American draws, as it were, from the air he inhales; the custom which excuses even young women from asking the permission of their parents for most of their actions, and from giving an account thereof; the laws, finally, which sanction the existing customs, frequently shorten the duration of childhood and weaken parental authority. These are some of the causes which have greatly reduced the moral influence of the family. Does the school supply this want of moral and domestic education? It is difficult to believe that it supplies it entirely, but it certainly does partially. The children of the lower classes will learn at school how to behave and will lose some of the rudeness of their manners. In school they hear the duties of respectable people authoritatively explained and receive moral directions of an elementary character for practical life; here they are trained to be members of a civilized country. This training is all the more necessary because thousands of European immigrants have in this respect everything to learn. Would it be proper for the United States to let the different denominations take care of the civilization and moral training of these ignorant masses? Certainly not; for those who need civilization most are precisely those who are without the influence of the churches; the object, moreover, of the churches is not to make citizens for the state, but converts to creeds. Not even the Sunday school has this in view; it limits its instructions to particular religious tenets held by its sect. It is thus the public day school which has to accomplish this work, and nobody calls this privilege in question.

The foregoing considerations would seem to lead to the conclusion that the American school is, more than any other public establishment, entirely in the hands of the state. This is, however, not at all the case. The Federal Government does not interfere with the schools at all; the Constitution does not even authorize it to do so. The States interfere only so far as general school legislation is concerned, and leave to the different localities liberty to organize and manage their schools as they please. If we find the American schools, especially in the Northern and Western States, in a flourishing condition, it is not that the real usefulness of the schools is appreciated by those who govern, but by those who are governed, and because the various municipalities feel themselves obliged—not by a law emanating from a central authority, but by what is a great deal stronger, the will of the people, the pressure of local interests—to establish and to support schools in conformity with the wants of the country. This gives the school system in the United States an immovable stability. The custom of leaving the care of public education to the local authorities is, however, not an isolated fact in the social organization of America. In principle, the Constitution of the United States confers on the Central Government no power which it *does not* absolutely need either for the defense of the collective interest *of the Union,* for intercourse with foreign powers, or for the subordina-

tion of the several States constituting the Union. Beyond these three cases, the Central Government is not to interfere. This does not mean that the Federal Government is indifferent to education. It had, on the contrary, provided for its future support before even the municipalities took hold of it. The Government waived the privilege of directing the management of schools after it had assured their success from a material point of view by devoting valuable lands to their support.

The writer here explains how the land grants were made by the Federal Government.

Thus far all movements having for object to give the Federal Government a more or less direct control over educational affairs have been promptly rejected by Congress and an almost unanimous public opinion.

The United States have no minister of public instruction, and they cannot have any. Until a few years ago it was utterly impossible to obtain comparative school reports from the United States; it was even impossible to ascertain the exact number of schools, teachers, and pupils, the total amount of school expenditures, the proportion of illiterates, or any other statistical information relative to schools. This condition of affairs finally aroused the friends of public education, and in 1866 the National Education Association, assembled at Washington, requested Congress to establish a "central office of educational information." Congress granted this request, and Dr. Henry Barnard, of Connecticut, was appointed first Commissioner of Education. This eminent gentleman, however, for want of support, failed to organize the Bureau as he desired, and he consequently resigned. After some interruption, and after new efforts by educational societies, the work was resumed and intrusted to a man of incontestable ability, Mr. John Eaton, formerly superintendent of schools of Tennessee, and during the civil war general in the Federal Army.

Here follows the biography of General Eaton, translated from the American Educational Annual for 1875.

Thanks to the cordial support of President Grant and other prominent men, General Eaton has made the Bureau a success. He has had the annual appropriations increased, which are, however, still very small; he has organized the publication of two series of valuable documents corresponding with the double purpose of the Bureau: first, the annual reports, containing the statistics and abstracts of school reports of the whole Union, and offering comparative résumés of official documents of the several States; secondly, the circulars of information, intended to give accounts of the condition of education in all parts of the world, and to lay before educators valuable statistics, and historical, general, and special pedagogical essays.

Here follows a list of the documents published by the Bureau.

But, even with the aid of the Bureau of Education, it is still very difficult for foreigners, and perhaps still more for Americans, to form a correct idea of the true condition of education in the United States. It is

easy to see what the model establishments in some of the larger cities are doing; but it is almost impossible to get acquainted with the very numerous systems of organization and management of schools in the many districts and villages and to prepare a summary of the results. These multitudes of schools have nothing in common except the "American spirit;" but under how many forms does this "spirit" manifest itself! It is, therefore, necessary in every work on American education to beware of generalizations.

SCHOOL ADMINISTRATION.

The writer divides his subject as follows: Territorial division of the United States, organization of the different school administrations, the National Bureau of Education as a purely statistical centre, the State county, and local school boards, the classification of schools, and the organization of State, county, and city superintendence.

The National Bureau of Education at Washington has no dictatory power over the schools. It does not constitute an independent department or ministry, being but a bureau of the Department of the Interior. The library is almost unique as to completeness in its specialty. It contains selected works on the history and art of education in the United States and abroad, documents relating to public schools, academies, colleges, and special professional schools. Two of the most important features of the collection are (1) the educational journals published in the United States, and (2) the reports on public education in the States and Territories, together with reports from all classes of schools; there are reports on orphan and other charitable schools and on reform schools; finally, we find the school laws of the different States and the most important pedagogical works. There can also be found a full collection of reports on education in foreign countries. The richest part of the foreign accumulations in this library are from England, Germany, France, Austria, Belgium, Holland, Switzerland, Italy, Sweden, the English colonies, Brazil, and the Argentine Republic. We were glad to notice all the publications of the French ministry of public instruction and of several of our learned societies. General Eaton and his co-laborers requested us to explain to our school authorities, societies, and school publishers how beneficial a regular exchange of educational documents would be to both countries. They sincerely desire the realization of the views expressed by M. Buisson in the report on the Vienna Exhibition in regard to definitely organizing an international educational exchange. Another section of this library contains cyclopædias and many foreign and domestic reference books, among which the German works are especially numerous. The library is thus a permanent source of rich and varied information.

Here follows an account of the powers of the State boards of education and of the State superintendents. The writer quotes the school law of *Pennsylvania*. Respecting State superintendents' reports, he says:

The reading of the annual reports of the State superintendents is of exceptional interest. The progress, the results, the wants, and the methods of public education are discussed with an elevation of view, a sincerity, and an intelligence that we cannot fail to admire. We do not find in these documents, as it is thought in Europe, a continual glorification of American institutions, but a conscientious self examination, made in public and for the public.

Here follows an extract from Dr. Wickersham's report for 1875. The writer then gives two tables respecting State and county superintendents, and he explains the powers and duties of county and local school boards and superintendents, the mode of appointing teachers, and the duties of teachers. Respecting compulsory and free education he says:

There are two questions in the American school organization which invite special attention, compulsory and free instruction. The unfortunate consequences of non-attendance on schools or of insufficient and irregular attendance have always engaged the attention of the statesmen and best citizens of the American Union. The fact that immigration brings every year a large number of foreign families to the large cities greatly increases the number of illiterate and truant children. Cries of alarm are heard on all sides; the legislatures are requested to provide the measures indispensable to public security and social order, and there are many who see no remedy except in compulsory education. Twelve States and three Territories have passed compulsory school laws; in other States the authorities are waiting until public opinion shall pronounce itself in favor of compulsion and provide sufficient means to make it effective. They know too well that it would be imprudent to promulgate a law which, ignoring real difficulties now in the way of its execution, might be violated with impunity.

Here the writer quotes the law of Massachusetts of 1642 relative to obligatory education and extracts from State reports relative to school attendance in the States of Massachusetts, New York, Connecticut, California, Michigan, New Hampshire, and New Jersey.

In the States where compulsory school laws exist frequent violations are reported. After consulting many school reports, we came to the conclusion that the unsatisfactory results are not due to the principle of compulsion—which, on the contrary, we think excellent, and which has materially improved the condition of schools—but we ascribe it to three distinct causes: first, the weakening of respect for authority in the United States, resulting partly, in our opinion, from the too prevalent custom of electing public officers; secondly, the bad management of country schools and the lowering of the standard of their course of study through the too frequent change of teachers; thirdly, insufficient school accommodations, great distances of the schools from the homes of children, and bad condition of roads.

Despite these difficulties, several of the most enlightened States seem to be disposed to pass compulsory school laws. The superintendents

o these States call attention to the dangers of ignorance and truancy, dangers, they say, which must be combated at any risk in a country in w ich every citizen has a part of the public power.

Here follows a table showing the constitutional and legal provisions relative to primary education in the various States.

Gratuitous education is not limited to the primary school, but extends over grammar and high schools. The nation can thus say to all its children, "As I offer you gratuitously the benefits of a liberal education, all careers are open to you. There are no longer disinherited children among you. It is therefore your duty to make an intelligent use of your education, and so adorn your life by serving God and your country."

The writer closes by quoting from the report of Francis Adams (Free School System of the United States, London, 1875) the opinions of various superintendents relative to gratuitous education.

PUBLIC SCHOOL FINANCES.

In Chapter III the writer gives an account of school finances and of the gifts made for educational purposes. This account is taken from the reports of the United States Commissioner of Education.

SCHOOL ORGANIZATION—CITY SCHOOLS.

The writer quotes from various city reports the rules and regulations adopted by the school boards, the courses of study, and the various methods of disciplining and of exciting the emulation of pupils. Concerning the courses of study and the division of the time for recitation, he says:

An elementary class, even in the cities, has at least three divisions, sometimes even five, in a class not exceeding 45 pupils. But while in France it is a principle to have but three divisions and to unite these as much as possible for collective lessons in reading, writing, history, &c., which allows a subject to be treated at suitable length, this combination is rarely admitted in America. * * * For sessions of two hours and a half we have counted as many as fourteen distinct exercises in elementary classes in cities and in rural schools; this number falls to seven in the grammar schools, but at least half the scholars are either not occupied at all or are not advantageously engaged while the others are reciting. * * * This seems to be the weak point in the American school organization. * * * We are told that "the pupils are studying." But how?—not systematically, not under supervision, we fear. The use of copies must amount to an abuse, and, what is more serious, there is no opportunity allowed to develop in the children their powers of reasoning and observation.

Giving the arrangement of classes in Aurora, Ill., and Indianapolis, Ind., as least objectionable, the writer continues concerning directions for teachers:

There is no programme of studies among those which we have examined to which is not added, as a supplement, a series of directions for the teachers. Composed by the most competent men, they show the teachers how to apply the programmes and how to give their lessons; finally, they establish in the school system a uniformity of action which assures a regular method of teaching and renders the control of the inspectors more efficacious.

The most noteworthy of these directions are, in our opinion, those arranged for the schools of Philadelphia, Columbus, New Bedford, New York, Boston, Aurora, St. Louis, Cincinnati, and Fort Wayne. We give, as a specimen, the directions of Philadelphia.

Here follows a translation of the directions for the Philadelphia teachers. Concerning methods of discipline, the writer quotes from the reports of Pennsylvania, Milwaukee, Manchester, R. I., Warren, R. I., New Bedford, Boston, Cleveland, Chicago, New York, St. Louis, Washington, and Cincinnati. He mentions competitive examinations (monthly and yearly), honor rolls, medals, reports of standing, &c., as among the devices used for the stimulation of pupils.

SCHOOL ORGANIZATION—COUNTRY SCHOOLS.

Respecting the real condition of country schools, the writer presents a gloomy picture taken from the report for 1874 of Superintendent Bateman, of Illinois, adding that several of the other State superintendents concur in admitting its accuracy.

The writer then gives a translation of the directions for teachers written by Superintendent S. C. Macpherson, of Wayne County, Ind., of which he says:

The originality of form and the conciseness of expression add to the merits of this document.

To illustrate in what manner the half yearly reports are arranged, the writer gives a translation of the report of George N. Pollock, a teacher in the Bedminster district of Bucks County, Pa., to the county superintendent. Concerning ungraded country schools the writer remarks:

The characteristic trait of the country school is the absence of a regular organization. In the absence of sufficient official information on this subject we are unable to give a general idea of the condition of these schools. None but Americans could give satisfactory information on this topic. The opinion of one of them, Professor Phelps, of Wisconsin, is not very favorable to the country schools. The candor with which the existing evils are pointed out encourages the hope that vigorous efforts will be made to remedy them. The country superintendents are especially active. They insist upon a systematic organization of the schools, they require reports from every teacher, and they see that their instructions are carried out. We have read many of the county

superintendents' reports with great interest, because we feel that they are written by enlightened and trustworthy men.

The writer next considers the character of the buildings in which country schools are taught:

We are pained to detract from the charming picture of American country school-houses with which some enthusiastic travelers have made us acquainted. We have traversed vast plains where the settlers have to struggle against an indomitable vegetation; we have seen the iron, oil, and coal regions, and we have never met there such school-houses as we had imagined. The stone or brick building constitutes the exception, the frame house, which is so cold in winter and so hot in summer, is more frequent, and the log school-house has not yet disappeared. Even in the most flourishing States, many complaints are made in regard to defective accommodations. We are not describing here exceptional cases, we are trying, on the contrary, to do justice to this great country; but we must not conceal the fact that the schools in the rural districts are poor and badly arranged. In Pennsylvania and New Hampshire reports, the only States that exhibited documents on this subject, we find in fourteen out of twenty-two reports complaints of teachers who have absolutely no school apparatus. The salaries of country school teachers are so low that our French teachers have no reason to envy them.

The courses of study in country schools are still at their first attempts. There is no uniformity whatever; every teacher makes his own course and prescribes its duration.

Here the writer gives the course of study of the ungraded schools of Beaver and Perry Counties, Pennsylvania.

Besides this pedagogical anarchy, the country schools suffer from irregular attendance. Both teachers and superintendents complain bitterly. In order to remedy the evil to some extent and to increase the attendance without depriving the parents entirely of the help of their children, there have been established in several States half time schools. This measure has produced good results everywhere, and it would, perhaps, be advantageous to introduce it into our French system, at least for the summer months, if it be applied to the older pupils.

Here follows a list showing the number of graded and ungraded country schools in Connecticut, Iowa, Kansas, Michigan, New Hampshire, Pennsylvania, Virginia, Wisconsin, and Oregon.

COEDUCATION.

Among the peculiarities of the American school system, the almost universal custom of teaching in the same school both boys and girls is probably least understood. Mixed schools are found in every country; even in France we have about 20,000. But in France and other European countries the mixed school is considered a makeshift, an inferior and provisional kind of school, a necessary economy, especially in

rural districts. In the United States, as elsewhere, the establishment of the mixed school has often been not so much the result of a system as of circumstances. The children of a settlement are sometimes too few in number to be separated by sexes; one school-house, one class, and one teacher suffice for their education. But what is remarkable is that the schools in the United States remained mixed even after they had become developed, multiplied, and richer. In many places the separate system was tried for a short period, and as it was not found satisfactory the mixed school system was reëstablished. It exists at present in the great majority of city and country schools. The Americans have a deliberate preference for the mixed system. The main cause of this is that the school in the United States is above all a national institution: it forms not only men but American citizens; it is, as it were, a social mould of wonderful power—whatever may be the elements thrown into it, German or Irish, French or Spanish, only Americans ever come out of it. Now, one of the characteristic traits of American society is the great consideration everywhere shown women. This is shown not only in the manners of the people but in the large number of employments open to women, and it is to this general condition of American customs that this coeducation corresponds.

Take no matter what American book or paper speaking of coeducation, you will always find in substance the same arguments in favor of it. Why, they say, should boys and girls not be educated together, since they have to live together? A French mother would not fail to raise objections. * * * The two great objections, one moral, the other intellectual, which are allowed against the system, are considered visionary in most American families.

We do not find there those close family ties which have such a charm in Europe. Parental authority does not exist at all, or is no longer what it is in our country. Those who have occupied themselves with education in the United States affirm that they have always observed that the union of boys and girls in primary schools is beneficial to both sexes. The boys become gentler in their manner, the girls more serious and industrious. Accustomed to live side by side, they are not more in danger than brothers and sisters in a family. As children they are not surprised at working and playing in common; as youths they continue together without surprise or difficulty; this intercourse, not being new, awakens no new emotions. The only dangers which cannot be warded off are those which human nature cannot prevent. * * * We have heard quoted twenty times while in the United States these words of Jean Paul: "The best guarantee of good conduct is the education of the two sexes in common; two boys in a school will preserve twelve girls, and vice versa. But I guarantee nothing in a school in which there are only girls, and still less in the school in which there are only boys."

While the early development of boys and girls may properly be con-

ducted in the same way, it would seem that girls should also be instructed in woman's future work, *e. g.*, sewing.

The Americans themselves are not of one opinion respecting coeducation beyond the grammar school. We have collected, with great interest, some of the arguments for and against coeducation in high schools. It is remarkable that the moral question, which would be raised first in our country, concerns Americans least of all. But there are besides other dangers, which have given rise to lively discussions. It is said that the female pupils of the high schools are overworked. We noticed, when visiting the schools, a general look of fatigue and pallor among the girls of New England.

Here follows a series of American opinions on this subject, especially the opinions of the late Dr. Clarke of Boston, President White, Dr. Fairchild, and Dr. Oliver Wendell Holmes.

PRIMARY EDUCATION IN THE SOUTHERN STATES.

The writer gives an account of the efforts of the American Missionary Society and of several private benefactors for the establishment of schools for colored children. Concerning the intelligence of the colored children, he says:

There is a question which a foreigner never fails to ask when he visits the schools for colored children which are becoming numerous in the Southern, the Western, and even in the Central States; this question is, "Are these children as intelligent, as susceptible of education, as the children of the white race?" The study and the definition of the characteristic differences between the children of the two races is one of the subjects which we hear very often discussed in conversation and which is found in many educational journals. We must decline to discuss the question here, as our observations can only be superficial and incomplete. We have been present during long recitations in colored schools, and we assuredly find the spirit, the tone, the manners, and the physiognomy of the classes different from the schools of Boston and New York. We still remember our visit to the Sumner School at Washington, where teachers and pupils are either colored or of mixed origin. It would certainly be difficult to find more animated, more lively, and more cheerful classes, more sprightly faces, a more attentive curiosity, more sensible answers, or a more ardent desire for education on the part both of teachers and of pupils. Similar remarks could be made of several colored schools in the Western States, *e. g.*, in Cincinnati, Ohio. The pupils' work exhibited at Philadelphia by these schools manifested a vivacity of imagination, a clearness of intellect, and a facility of assimilation which seem to contradict the pretended intellectual inferiority of the colored race. It is nevertheless asserted that if the negro, properly speaking, is examined in all the rudeness of the primitive type, as he is found in the two Carolinas, the parallel cannot be drawn; in these the

intellect remains lively and mercurial, but limited, narrow, and incapable of effort, self activity, and discipline.

Whatever the opinions on this subject may be, we leave the solution of this problem to others; but we cannot help remarking that the education of the negroes is a very recent experiment, hardly a few years old; that up to the present day everything that assures success has been wanting: good teachers, good programmes, favorable material, and moral conditions, and even family influence, for the schools have hitherto had, as it were, only the offspring of slaves or enfranchised slaves. One generation is not too long a time in which to efface the traces of a slavery of two or three hundred years' standing, and it would be fair to allow at least such a space of time before pronouncing a definite judgment.

We know, however, that in a number of central and western cities and in New England the colored children are at present admitted to the ordinary public schools. We always noticed them while visiting the schools, and more than once the principal of the school or the class teacher was pleased to point out to us colored children in the first rank of the pupils for their intelligence, their work, and their conduct. The prejudices which were so lively ten years ago, the feeling of contempt for and repulsion against the negro, are disappearing; if not in the Southern States, where bitter recollections will perhaps keep them up a long time, at least in the other States of the Union; and the public school chiefly contributes to bring about this happy result.

Here the writer gives an account of the Peabody fund, and he then quotes extensively from the southern school reports.

SCHOOL-HOUSES AND SCHOOL FURNITURE.

The writer gives extracts and illustrations from American reports showing the condition of educational buildings in various parts of the country, and he passes in review the different specimens of school furniture used in American schools. Among his critical remarks the following are the most striking:

In New York we found the class rooms too small for the number of pupils, and the sanitary rules, especially in regard to ventilation, not strictly observed. We prefer the school-houses of Boston, Providence, St. Louis, and Chicago, and, above all, Cleveland. Philadelphia has no uniform school-houses. They are, as a rule, badly arranged; the class rooms are small, and the light does not enter conveniently. We do not hesitate to place Cleveland in the first rank in regard to school-houses.

The Americans bestow great care upon school furniture. They like comfort, and they want to give the children as much of it while attending school as they enjoy at home.

INFANT SCHOOLS, KINDERGÄRTEN, AND PRIMARY SCHOOLS.

Concerning the number of Kindergärten, the writer reproduces statistics from the Report of the United States Commissioner of Education for 1875. Then follows a series of American opinions on Kindergarten training, a list of Kindergarten literature, published by E. Steiger in New York, and, finally, the programme of studies assigned to the primary schools of Cincinnati, Ohio.

READING.

The writer gives an account of the principal spelling, phonic, and word methods of reading used in the United States. Among those mentioned are the methods of Dr. Edwin Leigh, Monroe, MacGuffey, Knell and Jones, Sargent and May, Sheldon, Hillard and Campbell, Douai, J. M. Watson, and Webb.

WRITING.

Chapter XI illustrates the principal methods of teaching penmanship used in American schools.

INSTRUCTION IN THE MOTHER TONGUE.

Chapter XII contains the opinions of several American educators relative to instruction in the vernacular and extracts from text books used in American schools.

GEOGRAPHY.

Geography has long been one of the favorite branches of study in American schools. It could not be otherwise in a country which has so many reasons for applying itself to this science: the immense extent of its territory; the great diversity of its regions, its resources, and its population; the importance of its commercial relations with the entire world, without speaking of the relations with the mother countries, the result of which is that no country, no spot on the earth as it were, is entirely unrelated to the United States.

The writer gives an account of the methods employed in the United States, and quotes the opinion of Dr. Wickersham relative to the first instruction in geography. He describes the maps and atlases of Guyot, Warren, Mitchell, Harper, Swinton, and Monteith, and the pupils' work exhibited at the Centennial by the States of New Jersey, Rhode Island, Massachusetts, New Hampshire, Pennsylvania, Indiana, Ohio, Michigan, Iowa, and Wisconsin.

HISTORY AND GOVERNMENT.

Chapter XIV is a short description of the methods of teaching history and government in American schools. The writer mentions the methods

of Stewart, J. Clark Ridpath, Anderson, Barnes, Wickersham, White, M. G. Martin, Calvin Townsend, and others.

ARITHMETIC.

In Chapter XV the writer describes the methods of Grube, Warren Colburn, Olney, Brooks, Stoddard, French, White, J. S. Eaton, Robinson, Sanford, Peck, Ray, and others. He also gives a translation of the examination questions of various city schools.

BOOKKEEPING, ALGEBRA, GEOMETRY, AND GEOMETRICAL DRAWING.

The writer mentions the methods of the following authors: For bookkeeping, C. E. Pond, Smith and Martin, Bryant and Stratton, Potter and Hammond, Palmer, Fairbanks, Wright, Meservey, Groesbeck, Mayhew, Folsom, and Duff; for algebra, Olney, Davies, Brooks, Peck, Robinson, Bradbury, Eaton, Docharty, Wilson, Hagar, Ray, Loomis, and Perkins; for geometry, Evans, Davies, Brooks, Bradbury, Peck, Hunter, Perkins, Phillips, Robinson, Loomis, &c.

PHYSICAL AND NATURAL SCIENCES.

The programmes of study of primary schools in Germany, Belgium, Switzerland, and other countries have long since included notions of natural history, and more recently they have added the elements of the physical sciences. America has followed this example, and this innovation has produced such happy and prompt results in many city and sometimes even in country schools that the superintendents make efforts to spread it. Arguments based on incontrovertible facts are not lacking to them to prove the immense advantage which could be derived from this new branch of instruction. According to their views it is only the continuation and natural development of object teaching.

But it will at once be asked in Europe, as has been asked on the other side of the Atlantic, "Of what use are notions of science to children from six to thirteen years of age? Would it not be better to continue to devote the time to reading, writing, arithmetic, or spelling, for which branches they have really more need?" "This is a mistake," reply the educators who are familiar with this question; "the most accurate statistics establish the fact that the elements of science, far from retarding the progress in other branches of study, unexpectedly further their development; developing in the child a taste for nature and a spirit of observation, they also afford the mind a short but useful diversion."

A few hours a week divided into short lessons of twenty minutes would not cause a great loss of time; moreover, the pupils would be more benefited by the other lessons, for they acquire during these few moments habits of attention and curiosity which follow them in all their other studies.

Indeed, each branch of science the name of which is a bugbear

offers material for lessons as simple as they are useful. All those who know what interest children take in plants, animals, in all that lives, will admit that it is not difficult to give them in an attractive manner the first notions of botany, zoölogy, &c.

Concerning natural philosophy, what is meant by this big word? We need only be concerned to call the attention of the children to natural phenomena which they see every day, and to tell them that these various phenomena are governed by immutable laws.

Is it not necessary to know what we mean by steam, pump, balloon, telegraph, electricity, &c.? Such words occur almost every moment in conversation, especially in a country of industries and inventions like America. These scientific branches ought, of course, not to be profoundly treated during the first school years; instead of attaining the object, it would be missed. To make a display of science in primary schools has never entered the imagination of any practical educator; but one may select for each grade, from the domain of physical and natural sciences, a number of subjects, phenomena, and experiments which it would be easier to explain—and also, let it be admitted, more useful to know—than many rules of syntax or difficult questions in definition with which the grammar bristles; and let it not be believed that this instruction must be reserved for the higher classes of the grammar schools and for the high schools: experience proves that it is possible and even advantageous to begin with it in the elementary classes.

The manner of proceeding in these primary lessons differs, of course, from that of a complete scientific study; one begins with what strikes the eye, with describing the most noticeable qualities of objects; then one accustoms the pupil gradually to observe the simplest phenomena, to analyze them, to compare and classify them. What we have in view above all—it cannot be repeated too often—is not to make the children acquire a definite amount of knowledge, but to familiarize them with the process of observation, analysis, and comparison; in a word, with the whole method of investigation to which the sciences, even in the most elementary stage, constantly appeal.

Apparatus for demonstrations, collections of objects for object teaching, and series of elementary but exact illustrations (charts) are the indispensable means of all scientific teaching in primary schools, and the necessity of these is at present universally recognized. Everywhere charts of natural history begin to cover the walls in the class rooms by the side of geographical maps and the blackboards. In giving a lesson on granite or flint, what picture, what description, will ever equal a real piece of granite or flint? It is also recommended to make collections of mineralogy, zoölogy, and botany in the grammar schools and even in the primary schools. These collections, however modest they may be, will be twice as valuable when they are enriched by the personal efforts of the pupils under the direction of the teacher. It may also be said that *the less they* cost the more valuable they are; for ten objects hunted

for, found, and classified by the pupils themselves contribute more to their instruction than a hundred specimens bought at a high price.

Thus, as a natural consequence of the above manner of proceeding, the use of scientific books must be very rare in primary schools. Such books are suitable for an advanced systematical instruction, they will be indispensable in the high schools and colleges; but in the elementary schools they would only serve to deprive the child of the sight, the study, the direct observation, of objects and phenomena. The child must have acquired the habit of reading in the book of nature before taking hold of a printed volume.

Here follows a description of the exhibits of New Jersey, Massachusetts, Pennsylvania, Ohio, Indiana, and other States. The writer mentions the methods of Miss Youmans, Mr. Hotze of Cleveland, Prang of Boston, and others.

DRAWING AND THE HISTORICAL DEVELOPMENT OF METHODS OF TEACHING IT.

In taking a survey of the different parts of the educational exhibition we found many drawings, ranging from the simple sketches of common objects to large colored drawings of machines and buildings, from the small landscape drawn with an ordinary black pencil to the brilliant portrait in water colors or oil; but we found only in the Massachusetts section an ensemble of work which manifests a method, a regular system of drawing. Boston and a few industrial towns of the same State—Lowell, Fall River, Newton, Worcester, New Bedford—sent beautiful drawings produced in the ordinary day and evening schools. We recognized in this work a methodical process, an aim which had been distinctly fixed and strictly pursued.

It is very interesting to read in the report of Superintendent Philbrick for 1874 the history of the introduction of this branch of instruction and the efforts that eminent educator exerted to secure it.

Here follow an extract from Dr. Philbrick's report and the programme for the teaching of drawing in Boston. The writer then quotes from the method of Walter Smith, from the school law passed in New York relative to the teaching of drawing, and from Dr. Wickersham on "Education for work." Finally, he mentions several methods used in American schools, and concludes as follows:

This short review shows with what rapidity a correct idea spreads in the United States. It is hardly six years since Massachusetts inaugurated regular instruction in the art of drawing, and now this plan is quickly gaining ground in all the Northern and Western States, as far as the Pacific coast. Everywhere action is based on the same principles; and the Normal School of Boston will soon send out a swarm of missionaries to diffuse the teaching of drawing similar to those who have gone out in the last twenty years to carry the New England system of education to distant parts of the country. If the last Universal Expo-

sition of Paris revealed a considerable progress in English industry which was due to the artistic movement since 1851 by the great institution at South Kensington, what must not be expected from the American activity stimulated by the Philadelphia Exhibition? Everywhere educators begin to point out what is wanted; they awaken interest, and they find sympathy among professional and industrial men.

Moreover, the same movement manifests itself everywhere; China and Japan join their efforts in the new conditions of art to those of the European nations. France must keep up her preëminence in art, which has hitherto not been contested. France has immense resources which she must fertilize by a well organized primary education. With us, as elsewhere, it does not suffice to have excellent special drawing teachers and good drawing courses and schools; it is necessary that all the teachers should be capable of giving to all the pupils of their classes the first instruction in drawing. France, resuming work after her misfortunes with remarkable energy, must with no less energy devote herself to the study of drawing, and reinvigorate her productive forces at the fountains of art.

DRAWING IN PRIMARY SCHOOLS.

Chapter XIX describes the methods of drawing in American schools and reproduces a number of the best specimens of drawing exhibited by different schools. The résumé and conclusions are as follows:

The methods of the South Kensington Museum, introduced into America by Mr. Walter Smith, will render as great service to America as they have done to England. Three years ago drawing was taught in a very unsatisfactory manner and in a few special schools only. There were neither models nor methods nor teachers, and now it is made obligatory in many places. Competent European teachers were engaged to give this new branch of instruction a correct organization and an energetic impetus. Several large cities rivalled each other in efforts and sacrifices, and they submitted the results of their efforts to the judgment of the nations represented at the Philadelphia Exhibition. As a whole, these exhibits were very satisfactory, and if we take into consideration the fact that they were the result of two years' trial only, we must admit that such results have never before been obtained in so short a period.

SINGING AND MUSIC.

Training in music, the universal language, innate in every one, has always been considered a part of a good education. Nothing is more desirable than to extend it to the primary school. Many European countries have long since introduced singing and music into elementary education; for example, Austria, Germany, Sweden, Switzerland, and even England, which places to-day the instruction in singing within the reach of everybody, young children not excepted. But it is in the

United States that the most persevering and systematic efforts have been made to render music, and especially vocal music, popular through the school. Singing is obligatory in all the grades of primary schools in the large eastern cities; it is especially well organized in the schools of Boston, New York, Philadelphia, Washington, Cincinnati, St. Louis, Cleveland, Milwaukee, and San Francisco. Even in the South, where education is still in its rudiments, singing is often found on the programme of city schools, *e. g.*, at Nashville, Louisville, Shelbyville, &c. Moreover, in places where singing is an optional branch of study, it makes rapid progress from year to year.

Here follows a description of the methods used in American schools and of the results exhibited at the Centennial. In concluding, the writer says:

Does not a great lesson result from all the foregoing remarks? This lesson is, that singing could and should be introduced into the schools, and this not only in the higher classes, where special teachers are employed, but also in the lowest elementary grades. To accomplish this, a knowledge of the elements of music must be made one of the conditions of obtaining a diploma on leaving the school. The example of America proves that, with a preparation which is not very difficult, the pupils who intend to devote themselves to the profession of teaching may become, if not artists, which is entirely useless for their career, at least excellent teachers for beginners. They will often be more successful with young pupils than would accomplished artists, whom the want of patience makes nearly unfit to be good primary teachers.

GYMNASTICS.

The writer quotes the opinion of Horace Greeley, Mr. Philbrick's report for 1873–'74, and Dr. Wickersham's School Economy. He also mentions some of the schools in which gymnastics are taught and speaks of the movement in favor of introducing gymnastics into the schools.

RELIGIOUS INSTRUCTION.

The writer gives an account of the origin of the religious question in the United States, of the separation of church from state, and its consequence, the separation of the church from the school. He then speaks of the religious exercises in public schools, of the Bible question and the struggles connected therewith, of the Sunday schools and their exhibit, their literature, their organization, and their libraries, and he finally gives the statistical tables relating to Sunday schools published in the Report of the Commissioner of Education for 1874.

MORAL EDUCATION.

The part assigned to the school in the moral education of the young is not the same everywhere. In Europe, especially in France and Ger-

many, the programmes, the regulations, and the very spirit of the schools subordinate moral to religious instruction. Switzerland, Italy, and certain parts of Austria, without actually separating moral from religious instruction, begin to distinguish between them. Their new programmes devote a part to moral education proper. In the United States, circumstances require a complete organization of regular moral instruction, distinct from religious, since religion is excluded from the public schools. Is this want, so generally felt, sufficiently supplied? We do not think it is. No question is of greater importance and more difficult to solve.

We need not repeat the causes which, in the United States, render the moral education of the young at once more urgent and less easy than in other countries. It suffices to call attention to the fact that the family and the church have little power over the young, and that the incessant contagion of vice has a bad influence on public morality. The American school has, under these circumstances, a very difficult task to perform. Fortunately, many eminent educators do not hesitate to call the attention of the American people to this most important question.

Here follows a series of extracts from superintendents' reports.

More than one of the copy books exhibited at the Centennial showed what excessive liberty the pupils enjoy, and how they abuse it. If it is frequently said in Europe that "all respect for authority is disappearing," what must be said of the United States? Pupils do not hesitate to give in their school essays accounts of how they deceive their teacher and to make malicious allusions to the misfortunes of their teachers and parents. We noticed illustrated copy books which did not give a very edifying idea of a class. In one volume, exhibited by the Cincinnati school board, a pupil represented his German teacher as a man with eyeglasses, a pipe in his pocket, an empty bottle, an empty glass, and a tobacco box on his desk, and in the background a blackboard with the inscription: "Ich trinke. Ich habe getrunken. Ich werde trinken." (I drink. I have drunk. I will drink.) And in spite of the inconvenience of this disrespect, there are few Americans who would be willing to return to a more rigid system of discipline. There are few who do not see in this liberty, or rather license, a thousand times more advantages than disadvantages.

HIGH SCHOOLS.

The writer gives the history of the establishment and development of high schools in the United States, an account of the present condition of several high schools, of the investigations at Cincinnati and St. Louis relative to the occupations of the parents of the pupils, and of the courses of study. He quotes several American opinions relative to the aim of high schools. Concerning the teaching of modern languages he says:

Despite the good impression made by the exhibit of the instruction of modern languages, we do not believe that the American high school has much to teach us in this respect either in regard to methods or to the results obtained. It is difficult for foreigners who only pass through the classes to judge correctly of what is done and to avoid the errors of appreciation which may result from local, personal, or accidental circumstances, the secret of which is seldom explained to them. Nevertheless, after having visited about sixty of the higher classes, where the modern languages are on the programme, and after having almost everywhere inquired relative to the results achieved both in German and French, we must admit that we found scarcely one school in which either of these languages was at all familiar to the pupils, if we except the pupils of German or French origin. Often the French teacher modestly asked to be excused from giving a lesson in our presence; in other cases the teachers who complied willingly with our request knew the rules of grammar, but they evidently had no knowledge of the spoken language; in some cases it was just the opposite. In general, there seems to be more demand for German than for French. This fact, which it is useless to conceal, is explained very naturally by the great numerical superiority of the German population. We may say that from this day the French language will localize and confine itself to the several parts of the Union where there remain groups of Frenchmen or Canadians.

As a whole, the instruction in modern languages is of about the same quality as that of the ancient languages, which is rather mechanical and one sided, and which is characterized by the preference of a speedy method and the acquirement of mediocre results, more for practical use in life than for any other purpose. We do not wish to criticise this method; it is doubtless most suitable for primary and even for advanced schools; we only want to prevent the mistake of exaggerating the intellectual efficaciousness, the educational effect, and the literary value of this mode of teaching ancient and modern languages.

The writer then cites some specimens of lessons in the history of literature, and he remarks:

The study of the older English literature is generally pursued with great zeal. We are far from cultivating in our schools and colleges the ancient French with the same care and the same success.

NORMAL SCHOOLS.

The writer quotes from the work of Francis Adams on the free schools of America,[1] from the Report of the Commissioner of Education for 1875, and from various programmes and reports of normal schools. He then gives an account of several normal schools, their establishment, their courses of study, and their rules and regulations. Among the institutions specially mentioned are the normal schools of Bridgewater, Mass.;

[1] Free School System of the United States, by Francis Adams. London, 1875.

Kutztown, Pa.; West Chester, Pa.; Terre Haute, Ind.; Winona, Minn.; Ypsilanti, Mich.; the Normal College of New York; the Normal Department of Milwaukee; the Normal School of St. Louis, and the Normal Training School of Washington, D. C.

[illegible] ITU[illegible] —EX[illegible] [illegible]ATION OF TEACHERS.

[illegible] wr [illegible] gi[illegible] [illegible] rical development of teachers [illegible] i [illegible] of [illegible] [illegible]chusetts, Pennsylvania, Ohio, W [illegible] I [illegible] Iov [illegible] He then quotes American opinions re[illegible] ive [illegible] ex[illegible] ion [illegible] ers and extracts from various [illegible] tive [illegible] r [illegible] i [illegible] Then follows a translation of [illegible] q [illegible] in [illegible] t [illegible] tates of the Union.

AUXILIARIES TO THE SCHOOL SYSTEM.

We should have but an incomplete idea of popular education in the United States if we considered it as consisting only of three grades of the public schools and their continuation, the normal school. Popular education comprises yet other establishments for a special class of the population and for certain special purposes, such as schools for deaf-mutes and the blind, for the feeble-minded, for orphans, industrial and reform schools, and night schools. The establishment of these institutions is facilitated by the liberty of action which the recognized corporations, as for instance, the boards of education, enjoy, and by the facility with which new associations obtain charters of incorporation. The writer then gives an account of the condition of various such institutions and the statistics thereof.

PRIVATE SCHOOLS.

Chapter XXVIII discusses the character of private schools in America and seeks to indicate their place in the sphere of general educational activity.

SCHOOL STATISTICS.

A country which makes of the public schools its most important national institution cannot be indifferent to school statistics. Public opinion has too much interest in keeping account of the wants, the sacrifices, and the results, not to insist upon frequent information and periodical reports about their condition. There is probably no country which can to-day rival the United States as far as the organization of general school statistics is concerned, especially of primary education. The European nations which commenced a few years ago with considerable energy, are still far from being able to present a collection of works comparable to those of the United States, either in regard to the extent of the researches, the simplicity of the statistical tables which summarize those researches, or the value of the deductions made. It is worthy of remark that the countries in which the administration of public instruction is centralized

have not been the first to organize a regular and permanent system of school statistics. The United States, which seems to have achieved this end the first, is precisely the one which it would seem would be delayed the longest by difficulties apparently insurmountable, viz, an immense territory, incessant fluctuations of population, differences of organization (which are fundamental) between the more than thirty sovereign States, a perfect township autonomy, an incessant change in the personnel of the school authorities, and the absence of all centralized power which might bring harmony if not uniformity into this investigation of school affairs intrusted to thousands of persons independent of each other. These obstacles, however, have not prevented the organization, development, and continuous and general improvement of a system of comparative school statistics which may now be considered in many respects a model. This shows what an imperative necessity it is, in the eyes of a free people, to watch as closely as possible the development of its institutions.

This success in organizing school statistics is due, it seems, above all. to two principal features which have distinguished it from the beginning: first, the way in which it was conceived, and, second, the way in which it has been accomplished. So far from considering this a work of mere administration, designed to interest only a few specialists, the Americans had a clear idea of the result to be obtained, of the motives which made them pursue it, and of the interest which was attached to it. There is but one essential question that interests them, the question "how many children ought to receive, and how many are receiving, the education necessary to an American citizen?"

Here follows a schedule of school statistics, as given in American school reports.

It has not been without the energetic efforts of superintendents that a system of reporting school statistics has been organized. The success is evidently due to the custom of presenting annual reports to the school boards, and by the latter to the public. The school laws make this publication almost everywhere obligatory. Every year, and in every city and State, appear these volumes of pedagogical, statistical, and financial accounts, which are not only distributed to a few assemblies, but gratuitously offered to all who apply for them. They are reviewed in all the journals, discussed in different public meetings, placed in all the libraries, and consulted, long after their publication, by all those who desire to compare the present with the past.

However excellent this long established custom of publishing local school statistics may be, it is not difficult to understand that a great deal remained to be done to organize in the United States comparative school statistics. This want was supplied by the creation of the United States Bureau of Education, the organization of which is described elsewhere. This Bureau, too, was created at the right time; a few years earlier it would doubtless have proved a failure. It was necessary to wait until every State and city had organized special statistics, until the public

was familiarized with the necessity of these periodical accounts. Even after having given public opinion time to reflect, and after the great majority understood by experience the usefulness of this permanent and national investigation of the condition of public education, the American Union has still been the first to create a central bureau of comparative school statistics. Among the federal governments not one has succeeded before the United States in grouping and comparing the results of education in the different parts of the union. Even Switzerland, justly celebrated for its excellent institutions of learning, which ought to have had, it seems, all the means of summarizing quite early the educational affairs of its twenty-two cantons, secured such statistics much later, and less completely, although the United States consists of nearly double the number of States.

It will doubtless be of interest to call the attention of the reader to a fact which seems to be little known to our educators. It is in France that the idea originated which gave birth to the present National Bureau of Education at Washington. One of our most prominent educators at the beginning of the present century, M. Jullien, of Paris, published in 1817 a book[1] which seems to describe, in detail, the American Bureau of Education. M. Jullien says:

"The question is how to organize, under the auspices and special protection of one or several sovereigns and with the concurrence of existing educational societies, a special educational commission consisting of but few members, whose duty it shall be to collect, with the aid of correspondents, the material for a general report on scholastic establishments and on the methods of instruction and education in the different European states.

"Series of questions on every phase of instruction, to be answered on uniform blanks at the same time and after the same method, would gradually, and in less than three years, give us comparative tables of the real condition of education in the European states. It could be easily ascertained what nations are advancing and what are retrograding and what ones remain stationary; what in each country is the weak point, and what are the causes of it; what improvements could be transplanted from one country to another, with such changes as circumstances might render appropriate.

"The science of education, like every other science, is composed of facts and observations. It seems, therefore, necessary to make for this science, just as has been done for every other branch of knowledge, collections of facts and observations, arranged in analytical tables, which can be compared, and from which definite principles and rules may be derived, so that education may almost take rank as a positive science. As

[1] Esquisse et vues préliminaires d'un ouvrage sur l'éducation comparée et séries de questions destinées à fournir les matériaux de tables comparatives d'observations à l'usage des hommes qui veulent se rendre compte de la situation de l'instruction publique, par M. A. Jullien. Paris, 1817.

comparative anatomy has improved anatomy, so will the study of comparative education furnish new means of perfecting education."

The best proof that this project was no visionary scheme is that M. Jullien went to the trouble to publish, at the end of his work, some series of questions on the actual condition of education and of public schools in different countries compared with each other. These inquiries, which might in many respects be confounded with those sent out by the United States Bureau of Education, cover primary, secondary, superior, and special schools. Under each of these four divisions the inquiry embraced nine series of questions. That relating to the first grade, primary, embraced 120 items.

Such was the plan of M. Jullien, of Paris, in 1817. Seeing that he could not execute his plan in France he tried it in Switzerland, where he was, however, only partly successful. The author would have been much astonished had it been predicted to him that his project would be realized for the first time and on a grand scale in a country the half of which, at the time he wrote, had savage Indians for inhabitants and trappers' cabins for cities.

Here follows a résumé of school statistics as given in the report of the Commissioner of Education.

RÉSUMÉ—CONCLUSIONS.

In concluding this report on the scholastic institutions of the United States, the question arises, "What conclusions shall we draw from these investigations? What lessons do they teach us, and what examples do we propose to our country for imitation? What is, finally, the practical result of our mission?"

The answer would perhaps be easy, if scholastic institutions could be compared like industrial inventions, which, recognized as good in one country, are equally good in all other countries. A commission of experts charged with the examination of an apparatus or an establishment must be able to adopt or reject it, as soon as they have seen it work. To draw similar conclusions from scholastic organizations would be very hazardous. The school is not, indeed, an institution which can be studied separately, like a system of railroads or telegraphs. The school is nothing in itself; it is established by the people and for the people, after its own image and imbued with its spirit. It lives through the people, and it has the virtues and imperfections of the people. It is a social institution, inseparable from society itself, and cannot be transported as a whole from one country to another. Had we found the American school system perfect, it would nevertheless be utopian on our part to advise its importation into our country, where it would have to be reconciled with our customs and traditions and with our different social conditions. Under such circumstances the system would soon be found detestable, for it would be, in our country, the corpse only; the soul would have departed.

We have tried to imbue ourselves with the American idea in its application to school life, to understand the organization of the free school system, to catch its spirit, to follow its development, and to note its results. We have tried to judge the American school from an American standpoint, because it is made for Americans, and not from the standpoint of Europe and France, for whom it was not intended.

We offer here a résumé of our personal observations, and not a project of reform based on those observations. The latter task belongs to others. We give the following account as simple reporters.

The American school has, as far as we have been able to ascertain, the following characteristics:

1. The primary school is essentially a national school; it is dear to the people, respected by all, established, supported, and enriched by a unanimous spirit of patriotism, which has not varied for a century; it is considered the source of public prosperity, the chief safeguard and protector of democratic institutions and of republican manners.

2. The school organization is strictly municipal.

3. The supreme control and supervision of primary instruction are intrusted to school boards which are elected and to officers sometimes elected and sometimes appointed by the board; hence result a variety of consequences: the frequent renewal of boards and superintendents; the often deplorable influence of political and local interests; the possibility of sudden changes in scholastic organization; and, finally, the necessity for the people of being informed as to the school questions which they are continually called to vote upon.

4. All degrees of primary schools are gratuitous.

5. The primary school is absolutely unsectarian.

6. Compulsory education, legalized in several States and advocated in several others, had undoubtedly aided in the development of primary instruction, but to what extent it would be difficult to say. The results thus far are not very striking. Moreover, it is impossible to establish compulsory instruction precisely where it is most needed, in the Southern States. Everywhere the most practical form in which it has appeared is the adoption of regulations for compelling truant children to attend school, and, if necessary, sending them to reform or other special schools.

7. Primary instruction, so called, in the United States, is not always limited to elementary studies, but often includes elementary, grammar, and high schools.

8. The scholastic organization (rules, courses of study, division of time, and discipline) is never left to the teacher in cities or localities of any importance, but to the educational boards and superintendents. Teachers are made to conform rigorously to the directions they receive and to use the text books approved by the same authority. All the efforts of educational authorities are directed toward the introduction of this system in the rural schools, which, up to this time, have been left too much to themselves.